MARINE REVIEW.

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The Hemp Market.

Speculators are busy in the hemp market, and with prices in London higher than they are in this country some hemp has been bought in New York for foreign account. A Cleveland concern, the Upson-Walton Co., which engages largely in the rope trade on the lakes and in the sale of binder twine, was fortunate enough to have part of a cargo of Manila hemp that arrived in New York on Saturday last. The cargo was that of an American vessel that left the Philippines in February last. There was, of course, considerable doubt as to the safe arrival of the vessel in New York. Mr. J. W. Walton of the Upson-Walton Co. makes the following statement in answer to a request for information regarding the market:

"The market for rope fibres is in a very demoralized condition. I have lately visited the brokers in New York and find that no one has any idea as to the future of Manila hemp. All reports to the contrary notwithstanding, no one has any definite advices from Manila. Whether hemp which was loading at the time of the battle of Manila will be allowed by Admiral Dewey to sail or not, is one of the problems. Strong efforts are being made by the administration at Washington to allow this to be done in the interest of the farmers and of the navy, but so far no definite answer has been received. The prices of Manila hemp today are merely nominal, as there is no transfer possible under the circumstances. No doubt if hemp were on hand for sale, the price would go higher than that now quoted. As it is, the abnormal condition is seen of an inferior fibre being sold at a higher price than the Manila. This, however, has been the case several times within the past decade. The higher prices at present are not due entirely to the war. An advance in Manila hemp was observed before the war broke out. For instance, on Jan. 1 last the market price in New York was 3¾ cents; Feb. 1, 4¼; March 1, 4⅜; April 1, 4⅝; May 1, 6. Sisal hemp meanwhile has been quoted: Feb. 1, 3¾; March 1, 4¼; April 1, 5, and May 1, 5½ cents, and since then Sisal hemp has actually advanced above Manila. For some time past it has been observed that the Manila hemp has been coming over shorter and shorter in length, showing conclusively that the trees were being cut before their full period. I have no doubt that this has its bearing upon price. It is also clear that the half-civilized natives who produce this material are disinclined to work, as most dwellers in tropical climates are, and will not do so unless driven to it by necessity. The methods of administering taxation have been a great drawback to progress on the islands. Not more than 30 per cent. of the taxes ever get into the royal treasury. But in order to keep up the taxes the people are compelled to go out into the woods and cut hemp. What the United States will do in the way of taxation is a problem, but the burdens will certainly be far less onerous than they have been under the Spanish rule, and it may thus take years to induce the natives to produce as much hemp as they have in the past.

"The amount of Manila fibre that goes into binder twine, which is of entirely modern origin, is now a big item. It is variously estimated at from 50 to 60 per cent. of the entire product. Our firm just got in a load in one single shipment from New York to Cleveland of over 6,000,000 pounds. With a fine harvest, such as we are blessed with today, the demand is very great for both Manila and Sisal for this purpose. The importations of Manila last year were about 122,000,000 pounds, and of Sisal in the same period about 116,000,000 pounds.

The following table in a document of recent date from the state department gives the destination of hempen exports from the Philippines:

Year.	Great Britain. Bales.	United States. Bales.	Continent of Europe. Bales.	Total Bales.
1888	347,854	246,437	2,861	597,152
1889	322,022	199,707	1,239	522,968
1890	341,993	109,726	1,968	453,687
1891	443,142	132,267	4,206	579,615
1892	357,744	384,076	3,354	745,174
1893	373,041	212,463	3,548	589,052
1894	335,372	387,045	11,691	734,108
1895	493,801	273,918	3,981	771,700
1896	407,522	290,327	2,632	700,481
1897	385,182	417,473	22,373	825,028

It will be noted from the table that about 41 per cent. of this trade in 1898 was with the United States.

An Explanation by Col. Lydecker.

Col. G. J. Lydecker, United States engineer at Detroit, is inclined to differ from Capt. D. Nicholson of the steamer Tom Adams, whose letter to Capt. Geo. P. McKay, treasurer of the Lake Carriers' Association, complaining of obstructions in the lower channel through Lake St. Clair was printed in a recent issue of the Review. In a letter to Capt. McKay under date of June 14, Col. Lydecker says:

"A very careful survey of the locality designated by Capt. Nicholson was made May 3 to 9, 1898, which revealed nothing less than 19 feet of water in this part of the channel. Since the completion of the lower portion of the channel in 1895, many hundred vessels drawing 17 feet and over have passed through without any difficulty, and it seems strange that such obstructions as mentioned by Capt. Nicholson should have existed all this time without having been struck on previous occasions. However, I will have a sweeping scow go over this locality as soon as the necessary arrangements therefor can be made, and should any obstructions be found, an attempt will be made to remove them in the very near future."

Transatlantic Lines Finally Agree.

A rather unexpected denouement came the other day when the conference of representatives of the transatlantic passenger lines, which has been in session in London for some time past, adjourned with the announcement that a uniform rate had been agreed to, after pretty nearly everybody had come to the conclusion that a disagreement with a consequent season of rate cutting was inevitable. Among the lines which have been regularly represented in the conference are the Cunard, White Star, North German Lloyd, American, Red Star, Hamburg-American, French and Holland-American. One of the main accomplishments of the meeting, which has just adjourned, was the accession of the Atlantic Transport and Wilson-Furness line, together with several other organizations which have all along been favorable to the conference but have nevertheless remained outside its membership. The threatened disruption also had the effect of inducing closer affiliation. To this the only dissenting voice was that of the representatives of the French line. One of the main questions at issue in the conference was the relative difference in passenger rates on express and single screw steamers. The North German Lloyd line was willing, according to report, to agree to a $100 rate for a single first-class passage on twin-screw vessels, but wanted the rate fixed at $10 less for single-screw vessels, whereas a conference last November placed a minimum saloon rate of $100 on all express steamers during the summer. There is good reason to believe that in addition to the renewal of old agreements there are several new ones, the immediate effect of which is to be an advance of from 15 to 20 per cent. on the minimum rate for a first-class cabin ticket. The advance, if made, will undoubtedly be to protect the companies against the stamp tax of the war revenue measure, which imposes from $3 to $5 on each steamship passenger ticket issued.

The Effective Vessel in Future Wars.

That the naval engagements of the present Spanish-American war are expected to prove object lessons of inestimable value is proven by the interest with which naval architects and students of naval warfare generally are following the conflict. The struggle now in progress is expected also to succeed, where the Chinese-Japanese war failed, in the demonstration of what type of naval vessel is possessed of the greatest degree of effectiveness and efficiency. It may be readily seen that geographical location and conditions may preclude the possibility of the same interpretation of the lesson for all countries. Naturally, it is with the deductions affecting the naval progress of the United States that Americans are most concerned, and if we are to select one seemingly paramount to all the rest it would seem to be found in the pre-eminent adaptability of the armored cruiser to our purposes in preference to the other types of naval vessel.

Speedy armored vessels are so manifestly necessary to a country such as ours, for both offensive and defensive purposes, that a failure to supply a sufficient complement in our navy would appear a strange oversight, and yet there was needed the merry chase which the less powerful but swifter Spanish fleet has led our squadron in the Caribbean sea to impress upon us the extent of our weakness. Strange as it may seem the Brooklyn and New York are our only armored ships possessing sufficient speed to hunt down the Spanish cruisers, and in such an event the Spanish vessels would assuredly prove more than a match for the American duo.

In discussing this question, the Scientific American says: "Affairs of the past few weeks have taught us a lesson They prove the usefulness of speed as an offset against mere defensive power, and the inestimable value of speed and offensive power when combined in a fleet composed of identical armored vessels. We have taken occasion to read carefully through the lists of the world's navies and note what is the general character of the ships which have lately been built or are under construction or are authorized to be built, and we are impressed with the fact that the coming warship will be of a type between the battleship and the swift armored cruiser, a vessel with heavy battery, medium armor protection, high speed and exceptionally large coal supply."

Launch of the Hendrick S. Holden.

Invitations will be issued the latter part of this week by the Globe Iron Works Co. for the launch, at their yard in Cleveland, at 2:30 o'clock, Saturday afternoon, June 25, of the steamer Hendrick S. Holden, building for Capt. John Mitchell and others. The selection of a recipient for the honor of christening the new vessel has not yet been made. The choice will be left to J. J. McWilliams, the well-known Buffalo coal merchant, who is a stockholder in the vessel and who suggested that the new vessel be named for Hendrick S. Holden of Syracuse, N. Y., who is also a stockholder in the craft. Work on the new steamer will be pushed, with a view to, if possible, having her go into commission earlier than stipulated.

Why I Bought the Quito.

"Why I Bought the Quito" is the title suggested to Joseph Gilchrist of Cleveland for a prize article that would be read with a great deal of interest by vessel men in all parts of the lakes. Since he gave W. J. White of chewing gum fame a house and lot and something else for the Quito, Mr. Gilchrist has put up with considerable fun from the wags in vessel circles. He takes it in good spirit. When pressed for an answer as to what additional consideration is covered by the term "something else," he is said to have declared that it was just an old cat that had been hanging around the house which he turned over to Mr. White. The sale of a vessel like the Quito at any price has, of course, caused considerable talk among the vessel men. Some of them are reminded of old times,

Life Saving Service of the United States.

The life-saving service on the great lakes shows up very favorably in the annual report of the operations of the United States life-saving service, for the fiscal year ending June 30, 1897, which has just been issued. According to this report, the life-saving establishment of the United States embraces 259 stations, of which 189 are situated on the Atlantic and gulf coasts, fifty-five on the coasts of the great lakes, fourteen on the Pacific coast, and one at the falls of the Ohio river at Louisville, Ky. The reports of the several district officers show 394 disasters to documented vessels within the field of life-saving operations. The number of persons on board these vessels was 3,737, of whom forty-two were lost. The estimated value of the vessels was $5,132,485, and that of their cargoes $1,975,340, making the total value of property imperiled $7,107,825. Of this amount $5,108,895 was saved and $1,998,930 lost. The number of vessels totally lost was fifty-four. There were 305 casualties to undocumented craft—sailboats, rowboats, etc.—carrying 706 persons, eleven of whom perished. The value of property involved in these instances is estimated at $221,745, of which $182,280 was saved and $39,465 lost. The total number of disasters, 699, exceeds that of the preceding year by nineteen, and is the largest reported in the history of the service. Notwithstanding this fact, the number of vessels totally lost is the smallest since the year 1879, when the scope of the service was quite limited, the number of stations at that time having been only 173.

The showing made by the service on the great lakes, taking into consideration the number of stations, disasters, etc., is exceedingly creditable. Of the 699 disasters, 276 were on the lakes. Other comparisons are as follows: Value of vessels involved on the lakes, $1,846,970, against $5,342,755 in the whole country; value of cargoes on the lakes, $547,360, against $1,986,815 in the country; lake property involved, $2,394,330, against $7,329,570 throughout the country; property saved, $2,257,750 on the lakes, against $5,291,175 on all coasts; property lost, $136,580 on the lakes, against a total loss of $2,038,395; number of persons on board lake vessels, 1,332, compared with 4,443 on all vessels. On the lakes there was a loss of five lives, compared with fifty-three throughout the territory covered by the service. Only eight disasters on the lakes involved a total loss of vessels, as against fifty-four total losses on all coasts.

Annual Report of Suez Canal Traffic.

A full summary of Suez canal traffic for 1897 has only recently been published, although the aggregate tonnage was given in the Review some time ago. The full report of the directors shows that 2,986 vessels, with 191,215 passengers, passed through the canal in 1897. Of these, 2,103 were merchant ships, 727 mail steamers, 31 vessels in ballast, 112 war vessels and military transports, three steam yachts, eight tugs and two dredgers; 1,905 vessels were English, 325 German, 206 Dutch, 202 French, 78 Austrian, 71 Italian, 48 Spanish, 48 Norwegian, 44 Russian, 36 Japanese, seven Turkish, three Chinese, three Egyptian, three American, two Danish, two Siamese, one Mexican, one Portuguese and one Swedish.

As has previously been stated, the aggregate net tonnage was 7,899,374. In 1896 the number of vessels was 3,409 and the tonnage 8,560,284. The navigation receipts were 70,918,400 francs in 1897, against 76,487,716 francs in 1896; and the total receipts 75,607,029 francs in 1897, against 82,222,855 francs in 1896. The decline is 3,300,000 francs on the commercial and 3,443,000 francs on the military traffic. The net dividend of 90 francs, however, will be only 2.50 francs below that of 1896. Expenses have been increased in many ways, but on the other hand salaries have been reduced. The efficient state of the canal is shown by the fact that the average duration of transit is now 15 hours 36 minutes—a further reduction of 17 minutes.

Rudder Frames For New Battleships.

The last of a quintette of rudder frames for new United States battleships now under construction was shipped from Cleveland this week by the Cleveland City Forge & Iron Co. These rudder frames have attracted considerable attention, not only by reason of their size, but because of the manifest superiority of workmanship. The frames, which are manufactured from the best refined iron, are of the following dimensions: Extreme height, 20 feet 6¾ inches; width, 19 feet 4 inches; diameter rudder stock, 18 inches; extreme thickness of frame, 38 inches; weight, 32,390 pounds. Three of these frames were sent to the yards of the Newport News Ship Building & Dry Dock Co. for the battleships Kearsarge, Kentucky and Illinois; one was sent to the Cramp & Sons Ship & Engine Building Co. at Philadelphia for the Alabama, and the one shipped this week goes to the yard of the Union Iron Works at San Francisco for the Wisconsin. The four frames sent to the Atlantic coast were all transported via the steel canal boat line from Cleveland to New York, but water transportation was, of course, impracticable in the case of the frame shipped this week, and it was accordingly loaded on an ordinary flat car, although in order to insure passage through the tunnels it was necessary to bolt the frame in three sections, instead of welding it, the plan followed in the case of the other frames.

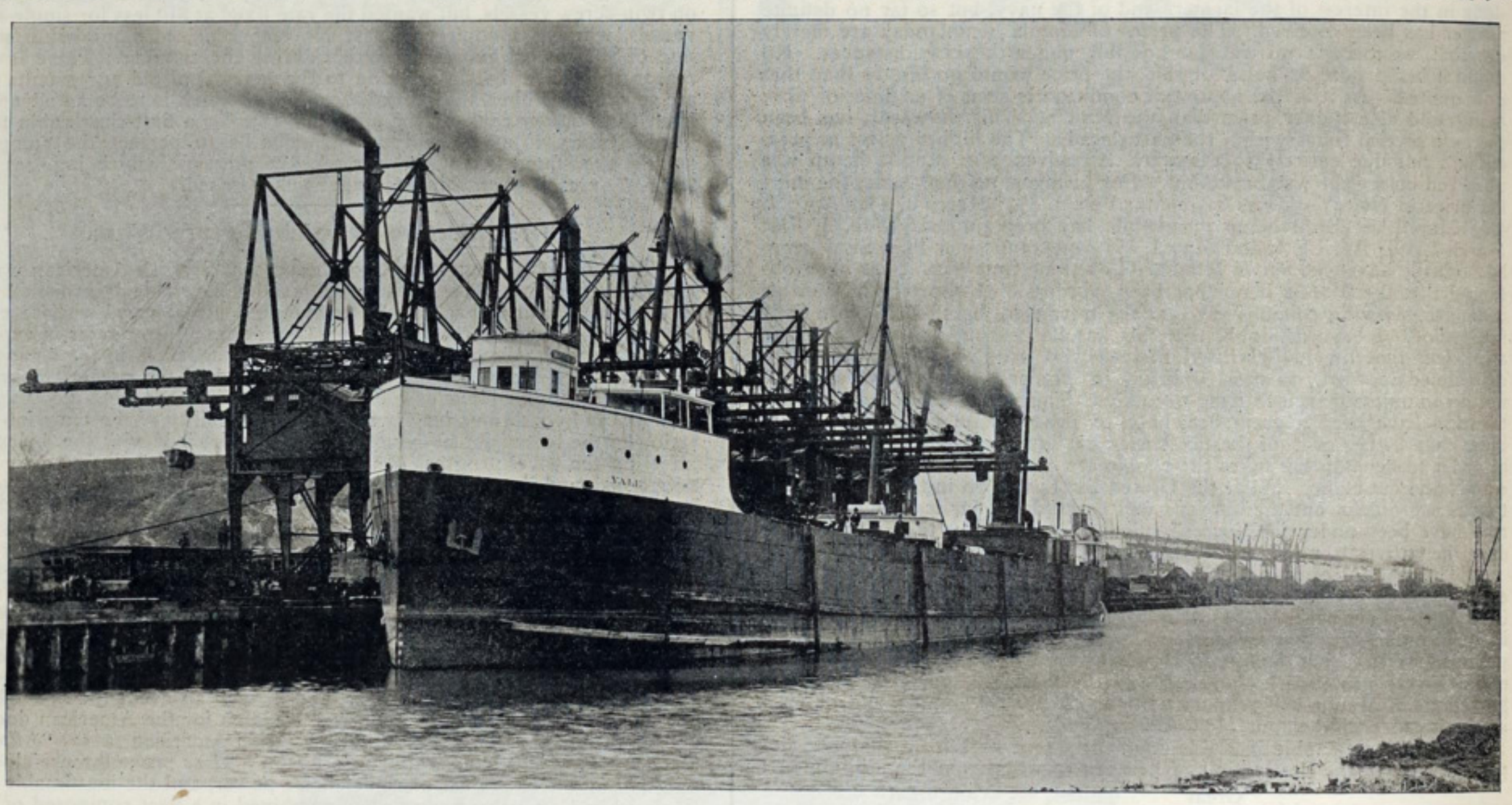
A More Plentiful Supply of Seamen.

Reports made during the past two weeks to Shipping Master Rumsey of the Lake Carriers' Association from the various shipping offices at lake ports indicate a turning of the tables as regards the conditions prevailing at the opening of the season, when it was almost impossible to supply the demand for seamen. To the outbreak of war with Spain was unquestionably attributable the state of affairs which for a time threatened to develop into a pretty serious problem. The lake seamen for several weeks immediately before and after the opening of navigation flocked to the coast in great numbers, attracted by the glamour of possible glory in the navy, but as the more recent reports of the shipping offices show, the return tide has set in. Many of the seamen were unable to pass the examinations imposed upon applicants for naval enlistment, while others were dissatisfied with the wages and conditions offered, and in consequence the travel westward again has set in, and it does not seem to have been limited to the lake seamen who went east, for all along the coast vessel owners are complaining of the greatest difficulty in securing crews.

The returns of men shipped at the Lake Carriers' offices during the past two weeks show an increase of fully 20 per cent. over any of the six or eight weeks previous, and the supply is now about equal to the demand. Reports of the men shipped at the various ports are as follows:

	Week ending June 4.	Week ending June 11.
Chicago	92	67
South Chicago	58	44
Milwaukee	61	39
Buffalo	72	96
Toledo	29	32
Ashtabula	63	45
Cleveland	93	114
Totals	468	437

When it is stated that the average for the corresponding weeks in 1897 was only 265, this increase may be appreciated.



[From 1898 issue, Blue Book of American Shipping.]

Steamer Yale Unloading at McMyler Fast Ore Plant, Conneaut, O.—All Ore Unloaded at this Plant is Transferred Direct from Vessels to Steel Cars.

Reduced rates to Portland, Ore., via Nickel Plate road, June 29th and 30th, account tenth triennial national council of Congregational churches. Ask agents. 87, June 29

Novel Features in a Yacht.

Perhaps the most interesting steel yacht ever built in America was launched last week at the yards of the Jonson Enginering & Foundry Co., New York. The vessel is the American, built for Commodore Archibald Watts, who designed her. She is 254 feet over all, 38 feet beam, 21 feet depth of hold, and draws 12½ feet of water. She has two quadruple expansion engines of 3,200 horse power and her estimated speed is 17 knots per hour. She has a coal capacity of 650 tons, sufficient for a 65-day cruise.

Commodore Watts, who has at one time or another designed naval vessels, set out to gratify his wife's ambition for a cruising yacht that could not be burned, sunk or dangerously broken on the rocks, and the American is the result. Many officers of the United States navy have examined the yacht, either officially or for their own instruction. Chief Engineer George W. McGee, one of the government experts, is reported to have declared that the hull includes greater precautions against sinking than any battleship afloat, and that the success of Watts' invention will probably lead to many changes in the building of ships for both war and commerce. The yacht has 16 watertight compartments on either side of the keel. Above these lower compartments are nine steel bulkheads, which reach to the upper deck, two of them separating the deckhouse. The steel keelson is only 4 inches narrower than those used in the St. Paul and St. Louis. The frames of the steel ribs are Z shaped, whereas those in the Maine, reported to have been the strongest vessel of her size in the navy, were L shaped, although of the same thickness. All the decks are of steel, together with the two deckhouses, which are 70 and 40 feet in length respectively. The yacht will carry two 25-foot naphtha launches with alco-vapor motors, one large steam launch, a 31-foot gig, lifeboat and dingy.

The American is equipped with a complete outfit of Blake pumps, including vertical twin air pumps similar to those furnished by the Blake company for the United States naval and revenue cutter vessels.

Great Britain's New Naval Plans.

The announcement of the British admiralty's naval program for the ensuing year serves to call attention to England's progression along this line in the past, as exemplified by the parliamentary return which has also just been issued. During the period from April 1, 1887, to March 31, 1898, there was expended on ships, machinery, gun-mountings, etc.—exclusive of guns and ammunition—the sum of $247,500,000. During the last four years the annual average has been in excess of $28,000,000. The trend of British policy in naval matters is well illustrated by a comparison of these figures with those during the previous eleven years, from April 1, 1876, to March 31, 1887, when the total expenditure was $121,250,000, or less than one-half that during the more recent period. During the past eleven years 190 battleships, cruisers, sloops and gunboats have been added to England's navy, to say nothing of ninety-six torpedo boat destroyers. The aggregate displacement of the 190 vessels first mentioned is 955,000 tons, and the horse power of the engines amounts to 1,575,000. The capital cost of the existing fleet is given as $486,005,000, as against $185,870,000 in 1887.

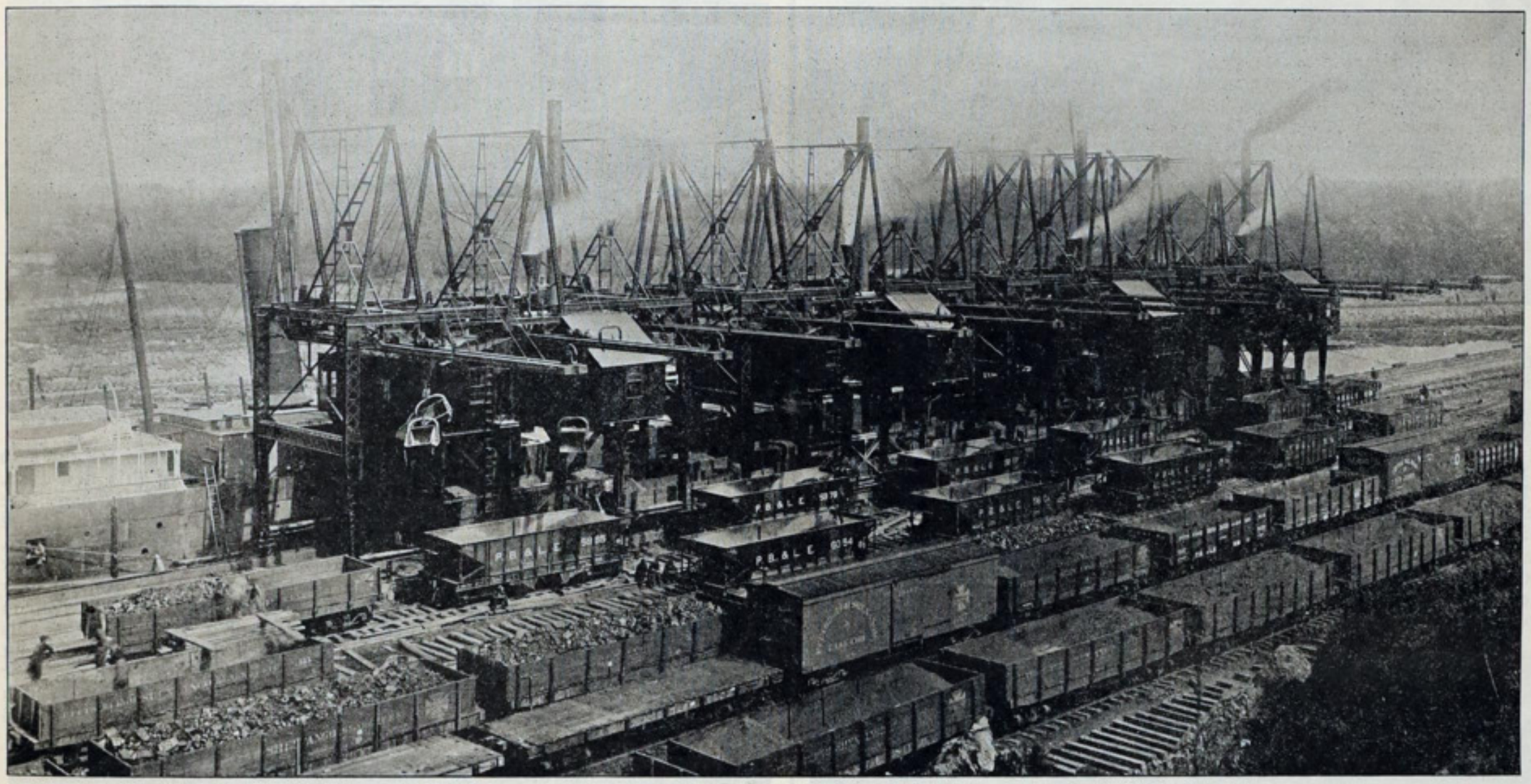
The admiralty's program for the ensuing year is, however, described as modest. The tendency is plainly toward great ships. Preparations are being made looking to an extension of the building facilities at Chatham and Davenport, with a view to placing the officials in a position to undertake the construction of three first-class battleships and cruisers at the same time. If all the contemplated increases in building facilities are made, the three chief dock yards will be able to build six or seven battleships simultaneously.

The Merrimac an Expensive Luxury.

The steamer Merrimac, which recently came into a pretty prominent place in the public eye by reason of her use as a cork for the imprisonment of the Spanish fleet in the harbor of Santiago de Cuba, had been the subject of no little discussion among marine men previous to that time, because of some seemingly peculiar circumstances connected with her purchase by the government and conversion into the auxiliary fleet of the navy. The Merrimac, which was a steel vessel 330 feet long, 44 feet beam and 29.9 feet depth, was originally a Norwegian tramp steamer, and ran aground and was abandoned by her crew in the West Indies in the summer of 1897. She was saved by wreckers and was purchased by T. Hogan & Sons of New York, who paid for her the sum of $48,000. The purchasers made extensive repairs upon the steamer—indeed, virtually rebuilt her—at a cost, according to figures furnished by them, of three times the original expenditure, making their total investment $192,000. The Merrimac was one of the many vessels offered to the United States government just previous to the declaration of war with Spain, and members of the board of auxiliary cruisers at that time made a careful inspection of the boat and rejected her, their refusal to recommend her purchase being based, according to unofficial statements, on not only her lack of adaptability for the purpose of the government, but her unworthiness of the price demanded by her owners.

After her rejection by the board the Merrimac was sent to Baltimore, and after an examination there by special agents sent on from Washington, was purchased by the government for $342,000. When the news of the purchase of the vessel reached New York, the members of the board of auxiliary cruisers made no secret of the fact that they held to their original opinion regarding her and were in no way responsible for the purchase. Mention of the circumstances connected with the whole matter came about in an indirect way, during the discussion of the civil sundry appropriation bill in congress last week, and the assertion was made that the purchase was resultant from the request of a politician. One assertion made was that the government had been swindled out of $150,000, while from another source it was held that the price paid was just $242,000 more than the vessel was worth.

The fact of the selection of the Merrimac by Admiral Sampson and the reported assertion of officers of Sampson's fleet that she would be more valuable at the entrance to Santiago harbor than above water, would tend to indicate that their opinion of the vessel was also none too high.



[From 1898 issue, Blue Book of American Shipping.]

Rear View of fast McMyler Ore Plant at Conneaut—Capacity about 5000 tons in eight hours.

Notwithstanding the struggle in which vessel owners are engaged to find cargoes with which to keep the lake fleet moving at any rate of freight just now, they find some encouragement in the evidences of a grain crop of unusual size. Reports indicate a total area seeded of 16,800,000 acres, which, added to the area in winter wheat—26,200,000 acres—makes a total wheat acreage of 43,000,000, or more than 3,500,000 acres in excess of last year. There is an increase of 8 per cent. in Minnesota, 22 in Iowa, 10 in Nebraska, 11 in North Dakota, 8 in South Dakota, 5 in Oregon and 20 in Washington. The average condition of spring wheat is the almost, if not entirely, unprecedented one of 100.9, as compared with 89.6 on June 1, 1897, and 92.5, the average for the last ten years.

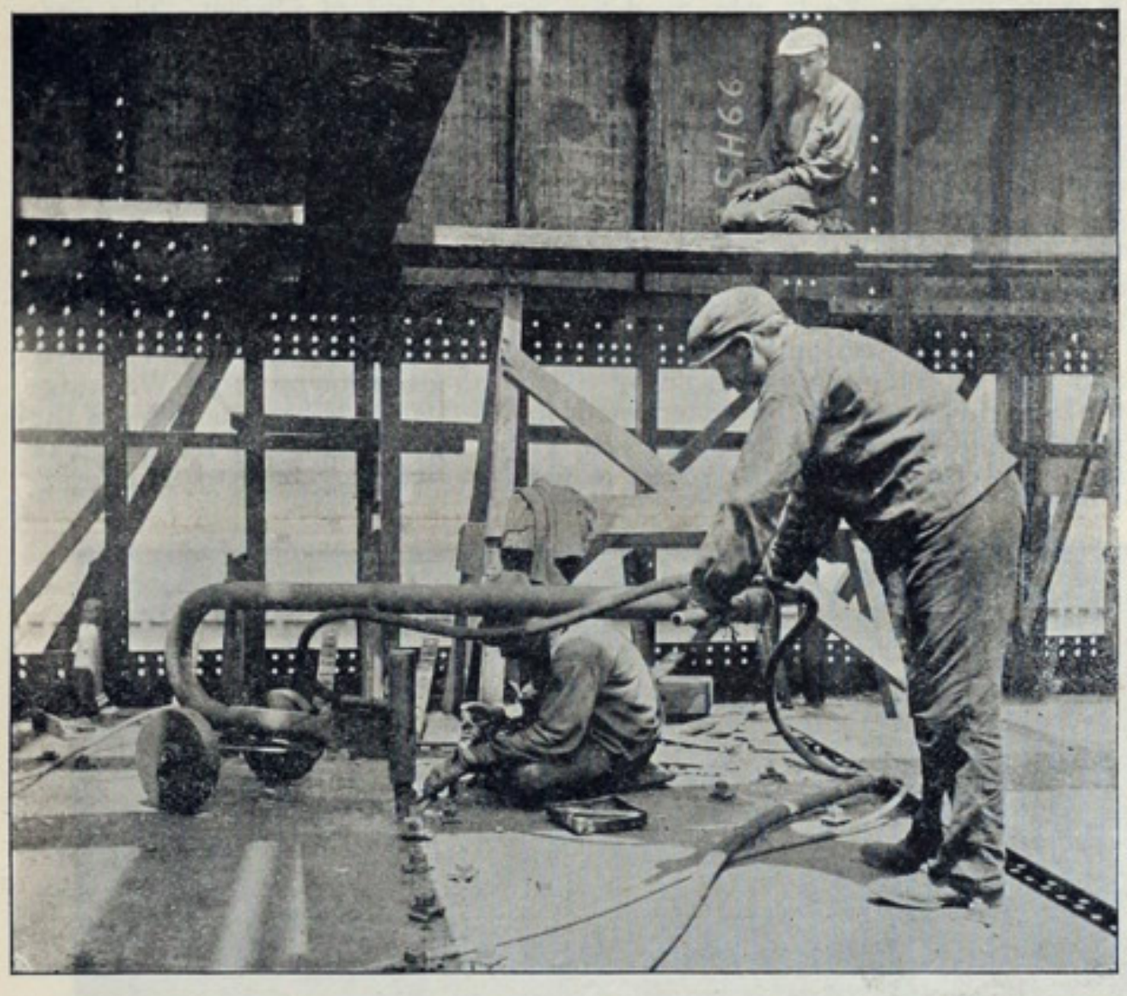
Charles Cramp Bowers, a nephew of the Philadelphia ship builder, has been appointed the designing and superintending engineer of Lewis Nixon's ship yard at Elizabethport, N. J.

The unexcelled dining car service on the Nickel Plate road.—Beginning Monday, June 20th, breakfast will be served a la carte, on dining cars of Nickel Plate road. 85, July 14

MACHINES FOR SHIP BUILDING.

THE DAY OF HAND RIVETING IN SHIP YARDS IS DRAWING TO A CLOSE—PNEUMATIC RIVETER FOR SHELL WORK.

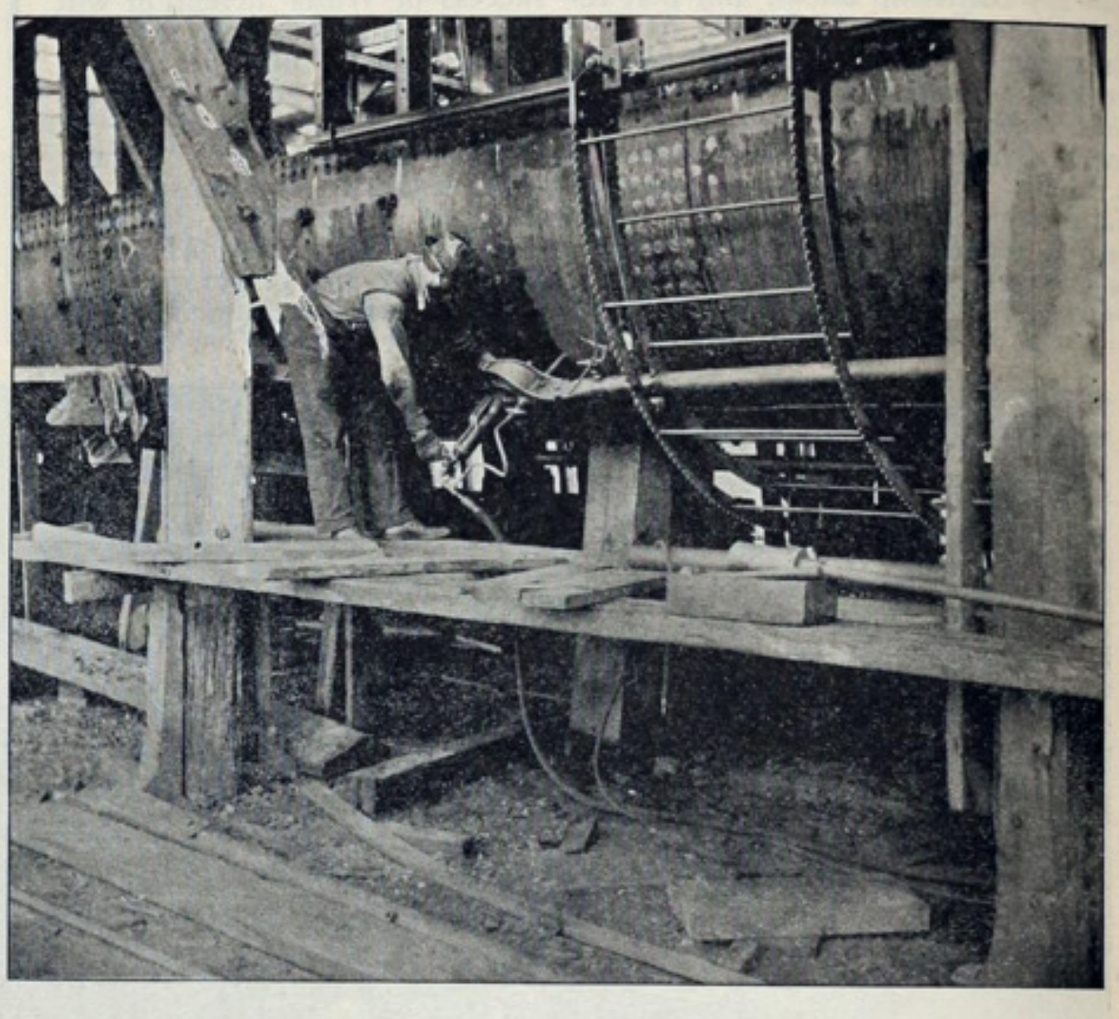
Chicago, Ill., June 15.—Chicago enterprise has produced a ship yard tool—another riveting machine—that is the biggest thing of its kind ever gotten up. The new tool was developed at the works of the Chicago Ship Building Co., but patent rights have been acquired by the Chicago Pneumatic Tool Co., and it will be manufactured and sold by that con-



cern, which is already well known to ship builders, boiler makers and others having use for air tools. Within a very short time the ship yards of this country—and all other countries following America's lead in labor-saving machinery—will build vessels with practically every rivet in them driven by machinery, and Chicago will be credited with having developed tools for the work. The day of hand riveting in ship yards is drawing to a close. This seems like a remarkable statement, when we take into consideration the thousands of rivets that are required in even a small steel vessel, and the large amount of high-priced labor that has been employed in this line of work, but a visit just now to the Chicago works will convince anyone that the facts are not overdrawn. There is now on the stocks at this yard, well along towards the launching stage, a steel tow barge in which many thousands of rivets, entering into decks, bilges, bottom shell, intricate parts of bow and stern, and, in fact, all parts of the

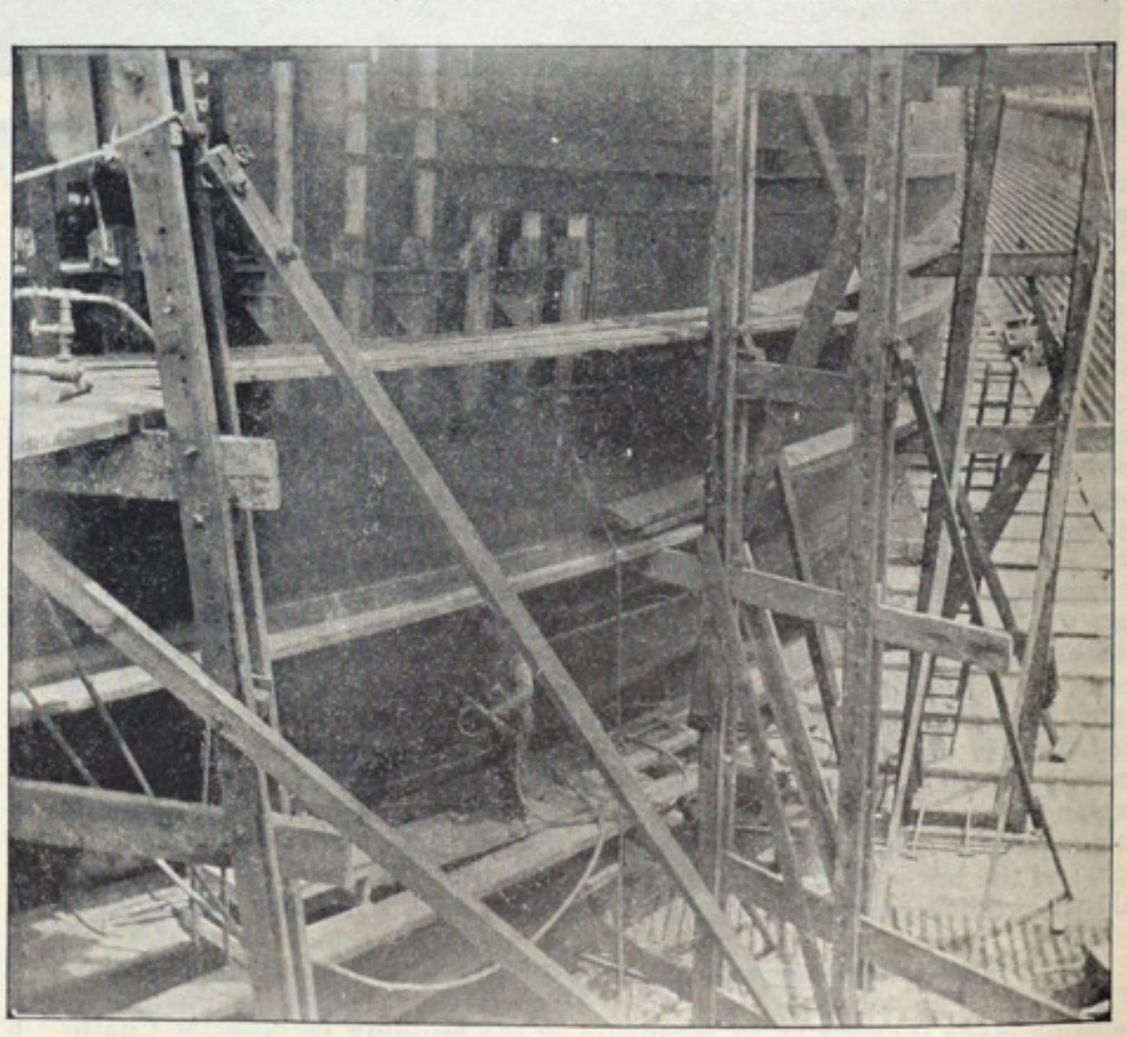
structure, have been driven by pneumatic tools. Only two or three thousand rivets in the entire ship, put in before a strike was inaugurated on account of the use of these tools, were driven by hand. In a dry dock close to the berth of the new vessel, a repair job on the bow of the steel barge Maida, involving an expenditure of about $12,000, and which is now about finished, has been done entirely with pneumatic tools. The bow of this vessel, which was in collision in the St. Marys river, had to be cut away for a considerable distance back of the stern and all the parts renewed, the job requiring some 10,000 rivets. The stem, driven back a foot or more by the collision, was taken out and straightened; frames were renewed and plates taken off and re-rolled or put in anew. The job as a whole amounted to a rebuild of the vessel's bow, and the work was of a very intricate kind, but pneumatic riveters were used on all of it, and at a cost very much below hand riveting.

When the Chicago Pneumatic Tool Co. a short time ago introduced a riveting machine that has been known as the yoke riveter, and which is well adapted to inside work on ships, such as girders, brackets, beam knees, etc., the success of the invention was wonderful. These machines were rapidly adopted in ship yards throughout the United States—at the works of the Cramps, at the Newport News yard, at the Bath Iron Works, in all the principal yards of the lakes and in a large number of the European yards. They are still being supplied as fast as they can be manufactured on orders that have been crowding the Chicago company to its fullest capacity. Now the machine that has lately been at work in the Chicago yard, and which has been found equal to all kinds of shell work, has been taken over by the tool company and will be manufactured and



sold by that company as the Babcock-Gunnell riveter, named for the ship yard managers who have developed it. With riveters of this new type, added to those previously furnished by the pneumatic tool company, the Chicago yard is equipped to drive every rivet in a ship by power, and at a cost only from one-third to one-half as great as the cost of hand work.

Illustrations of the new machine as applied to different kinds of work—at the bilges, on side plating, bottom plating, etc.—show quite plainly its construction and operation. A record of 450 ⅞-inch rivets driven in a day with a single machine has been reached, and it is claimed that this could be exceeded but for a desire to hold the men down to most efficient work. At the regular rate for hand riveting (the labor cost is 3 cents for ¾-inch, 3½ cents for ⅞-inch and 4½ cents for 1-inch rivets) 450 ⅞-inch rivets would have cost $15.75, whereas the cost with the machine was $5



for the gang and perhaps 50 cents for the power, or at the outside little more than $6 if the investment in the machine itself is also taken into account. One of the best features of the device is its simplicity. Take, for instance, the machine as applied to bottom work, in which the record above referred to was made. It consists of a pneumatic hammer mounted

in gimbals on the end of a piece of pipe about 8 or 9 feet long, which pipe is hung by its center to a trolley running inside of another piece of pipe which is bolted to the bottom of the ship. This allows the hammer to be brought to any point in a considerable space of the ship's bottom without shifting. The mounting of the hammer in gimbals allows it to be swung in any direction, so as to get at the rivet from all sides exactly as in hand riveting. The small cylinder shown with the air pipe connected to it close to the hammer is only to hold the machine steady when required, the piston rod being jammed up against the bottom of the ship and carrying a piece of rubber at its top end to prevent slipping. The radial frame or carriage for bilge work is simply a rig to facilitate the operation of the machine. It can be readily changed to suit different shapes in bilges. The capacity of the machine for deck work, also shown in one of the engravings, is, of course, greater than any of the others, on account of the ready manner in which it may be handled and applied to the rivets. The Chicago Pneumatic Tool Co.'s chipping tool is applied in connection with the riveters in all flush work, and all through the yard there are pneumatic reamers and pneumatic caulkers in use.

"The simplicity of these machines," said Superintendent Gunnell while showing a representative of the Review around the yard, "enables us to make riveters of men who have been engaged in bolting up work, in reaming and in other laboring lines. No skill is required. Some of the men you see handling the machines have had only a few days' experience in the use of them. The time required to close up a rivet is less than in hand work. It is chipped off quicker, as it is red hot, or nearly so. We have no further trouble on account of the length of rivet coming through the hole, as was always the case with hand work. Any length will be hammered down by the machine, and the work is uniformly good, whether the size is ¾-inch, ⅞-inch, full inch, or even larger. The rivets are driven better and tighter, always filling the holes, so that the work is much more satisfactory than hand work."

Riveting operations are, of course, carefully inspected in the interest of owners and underwriters. Robert Curr, who is the inspector for Pickands, Mather & Co., owners of the new steel vessel on which all work is being done with the machines, has reported to that firm that the work is of the very best quality. He has made a study of the machines and says there is no doubt of their adoption generally in ship building. The air compressor at the Chicago yard is of large capacity, made by the Ingersoll-Sargeant Drill Co. of New York, but with the extensive operations for which the yard is equipped additional capacity in this regard must be secured, so as to provide for a large increase in the number of tools when more work is under contract.

"One of the most important results of this invention," said Mr. W. I. Babcock in discussing the different lines of work to which the machines have been applied, "is that it will end the abuses that employers have been forced to put up with on account of the unreasonable demands of the riveters' union. We will run our own business now and the men have only themselves to blame. The riveters have always been a troublesome element in ship yards and have been at the bottom of nine-tenths of the strikes we all have had. Their labor has been indispensable from the time metal boats were first built. The work is hard. They made big wages and were deserving of a full return for their labor, but they did about as they pleased and we had to put up with them as best we could. The same is true of riveters all over the world, in all of the ship building centers of Europe as well as in this country. Their unreasonable methods have hastened the development of machinery of this kind. They must face a new condition of affairs now. We can do without them if we choose, and we will so choose for the greater part of the work, although it will be to the advantage of our yard to keep a few gangs on hand to do the ends of ships, odd jobs, repair work, etc. It was our intention since we first met with success in experiments with these machines to care for the men who had built up homes around the ship yard and were regarded as a distinct part of our force, and we still have them in mind, but the success of these machines has brought an end to our fears regarding the troublesome element among these workmen. Our men here have been on a strike for seven weeks and are still out, but we are going ahead quite as usual. After a while they will learn that in this age any machine that saves labor or cost is bound to come into use against all opposition."

Grain Cargo Record Broken.

The steamer Superior City, owned by A. B. Wolvin, which has of late been breaking cargo records in a most reckless manner, last Monday increased the record for grain cargoes by pretty nearly 1,000 tons. The Superior City on this occasion loaded in less than seven hours at South Chicago a cargo of 266,500 bushels of corn, weighing 7,463 net tons, on a mean draft of 18 feet 2 inches. The best previous record was that of the steamer W. R. Linn, owned by C. W. Elphicke and others of Chicago, which carried from South Chicago to Owen Sound a cargo of 232,000 bushels of corn, amounting to 6,496 net tons. The present cargo of the Superior City has only been excelled by her performance on her previous trip, when she loaded 7,642 net tons of ore. Cargo records to date are as follows:

Iron ore—Steamer Superior City, owned by A. B. Wolvin of Duluth, 6,823 gross or 7,642 net tons, Escanaba to South Chicago, draft of — feet — inches; steamer W. R. Linn, owned by C. W. Elphicke and others of Chicago, 5,638 tons gross, or 6,314 net, Escanaba to South Chicago; schooner Amazon, James Corrigan of Cleveland, 5,631 tons gross, or 6,307 net, Duluth to South Chicago draft of 17 feet 1 inch.

Grain—Steamer Superior City, owned by A. B. Wolvin of Duluth, 266,550 bushels of corn, equal to 7,463 net tons, South Chicago to Owen Sound, draft of 18 feet 2 inches; steamer W. R. Linn, C. W. Elphicke and others, Chicago, 232,000 bushels of corn, equal to 6,496 net tons, South Chicago to Owen Sound; steel schooner Australia, James Corrigan of Cleveland, 210,539 bushels of wheat, equal to 6,316 net tons, Chicago to Buffalo; steamer Andrew Carnegie, Wilson Transit Co. of Cleveland, 332,100 bushels of oats, equal to 5,313 net tons, Manitowoc to Buffalo.

Coal—Schooner Polynesia, James Corrigan of Cleveland, 5,654 net tons of bituminous, Cleveland to Duluth, 16 feet draft; steamer Carnegie, Wilson Transit Co. of Cleveland, 5,369 net tons of bituminous, Cleveland to Duluth.

A Popular Engineer Honored.

Personal popularity is a strong element in character of George A. Grubb of Chicago, who was recently appointed by National President George Uhler to the secretaryship of the National Marine Engineers' Beneficial Association. Mr. Grubb is a comparatively young man, being under thirty-seven years of age, yet for over nineteen years he has been engaged in various capacities around steam engines. He was employed for a time by the Dunham Towing & Wrecking Co., later took charge of the Chicago & North Western grain elevator, and since 1895 has acted as engineer at the Chicago avenue waterworks plant. He secured the position by reason of his record against thirty-nine competitors in a civil service examination. Mr. Grubb was one of the founders of the Chicago Tug Boat Engineers' Association in 1885 and acted as one of its officers until its absorption by M. E. B. A., No. 68, of which, in turn, he was for a time corresponding secretary and also treasurer. In 1894 the consolida-

GEO. A. GRUBB, NATIONAL SEC'Y, M. E. B. A.

tion of the two Chicago associations, No. 68 and No. 4, was effected, largely through the efforts of Mr. Grubb and Thomas F. Dowd, late national secretary. Mr. Grubb was soon after elected corresponding secretary of the new No. 4, and was re-elected each succeeding year until the present, when he declined a re-election on the plea that he wished some younger member to have an opportunity. He attended the national conventions in Washington in 1895-6-7 as the Chicago representative, accompanying National Secretary Dowd, and is therefore pretty thoroughly conversant with his duties. Mr. Grubb was very active in furthering the Squires-Hopkins bill, and the naval engineers' personnel bill now pending. For the portrait herewith presented, the Review is indebted to the courtesy of the American Shipbuilder of New York.

The New Queen of the Whaleback Fleet.

The date of June 20 has been set for the launch of the largest vessel of the whaleback type yet constructed, and as a merited compliment the vessel, which is also the largest ever constructed at the yards of the American Steel Barge Co. at West Superior, is to be christened the Alexander McDougall. Several innovations have been introduced in this new craft, chief among them that she is fitted with a straight stem and forecastle in lieu of the spoon bow distinctive of other vessels of this class. The vessel is 430 feet over all, 414 feet keel, 50 feet molded depth, 27 feet deep. She has a double bottom 5 feet deep, having a total water ballast capacity of 2,000 net tons. Engines are quadruple expansion, built by the Cleveland Ship Building Co. There are two boilers of Babcock & Wilcox type furnishing steam at 250 pounds pressure. The vessel has thirteen cargo hatches, each 24 by 8 feet in the clear, and spaced 24 feet centers, in addition to a large fueling hatch, the coal bunker capacity being 350 tons. The vessel's displacement on a draft of 18 feet will be 10,000 tons, and it is expected that she will be able to carry close to 7,000 net tons. The McDougall will be the property of the American Steel Barge Co. and will be operated by Pickands, Mather & Co. of Cleveland.

Mr. C. H. Tucker, well-known as one of the most energetic agents on the lakes, has leased the commodious new warehouses just erected by the Pennsylvania Railroad Co. on the lake front, Cleveland. The warehouses are 200 and 400 feet in length, respectively, with a slip on either side, and not only mark the advent of this class of business in the outer harbor, but by reason of obviating the necessity of vessels entering the river afford Mr. Tucker special advantages for patrons of the Northern Steamship Co., the Ogdensburg Transit Co. and the Lackawanna-Green Bay line, the lines which he represents. Direct railroad connection with the warehouses is afforded. Mr. Tucker still retains the dock at 23 River street.

The Brier Hill Iron & Coal Co. and the Youngstown Steel Co. of Youngstown, O., by a purchase of the holding of A. M. Byers of Pittsburg in the Biwabik Bessemer Iron Co., acquire control of the Biwabik mine on the Mesabi range. The agency for the sale of Biwabik ore continues with Tod, Stambaugh & Co. of Cleveland.

Nickel Plate road excursion to San Francisco, Cal.—Account of North American turners' convention. Tickets on sale June 27th and 28th. Ask agents. 84, June 23

MARINE REVIEW

DEVOTED TO LAKE MARINE AND KINDRED INTERESTS.

Published every Thursday at No. 409 Perry-Payne building, Cleveland, Ohio, by John M. Mulrooney and F. M. Barton.

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The books of the United States treasury department on June 30, 1897, contained the names of 3,230 vessels, of 1,410,102.60 gross tons register in the lake trade. The number of steam vessels of 1,000 gross tons, and over that amount, on the lakes on June 30, 1897, was 399, and their aggregate gross tonnage 769,366.68; the number of vessels of this class owned in all other parts of the country on the same date was 314, and their tonnage 685,709.07, so that more than half of the best steamships in all the United States are owned on the lakes. The classification of the entire lake fleet on June 30, 1897, was as follows.

	Number.	Gross Tonnage.
Steam vessels	1,775	677,235.45
Sailing vessels and barges	1,094	694,888.87
Canal boats	361	37,978.28
Total	3,230	1,410,102.60

The gross registered tonnage of the vessels built on the lakes during the past five years, according to the reports of the United States commissioner of navigation, is as follows:

Year ending June 30, 1893	175	99,271.24
" " " 1894	106	41,984.61
" " " 1895	93	36,352.70
" " " 1896	117	108,782.38
" " " 1897	120	116,936.98
Total	611	403,327.91

ST. MARY'S FALLS AND SUEZ CANAL TRAFFIC. (From Official Reports of Canal Officers.)

	St. Mary's Falls Canals.			Suez Canal.		
	1897	1896	1895	1897	1896	1895
Number of vessel passages	17,171	18,615	17,956	2,986	3,409	3,434
Tonnage, net registered	17,619,933	17,249,418	16,806,781	7,899,374	8,560,284	8,448,383
Days of navigation	234	232	231	365	365	365

To the person who gives the matter a moment's thought, there are manifestly two sides to the question of the difficulty experienced by the government in securing sufficient transports for army manœuvers, despite the fact that the newspapers generally have seemed to recognize only one and have heaped upon vessel owners who have declined to dispose of their vessels, or have demanded good prices for them, considerable of abuse, together with charges of lack of patriotism. The principal trouble, after all, seems to be found in the lack of vessels suitable for transport service, and for this the government, by its failure for years to in any particular degree foster the rebuilding of our merchant marine, has certainly made itself indirectly responsible. As for the question of the prices demanded, they are in some cases manifestly not excessive, while in others there is even less ground for the criticisms which have been made, when it is taken into consideration that the vessel owner, who is obliged to interrupt the conduct of an established business to supply the government with ships, must rightfully expect to be reimbursed, not only for the actual outlay necessary to replace his vessels, but in some degree for the loss resultant from the interruption or probable entire loss of his business.

An additional argument for the upbuilding of the American navy is submitted by the Army & Navy Journal, which says: "The commercial value of a navy is shown in the fact that the record voyage of the Oregon from San Francisco to the Atlantic immediately produced an invitation from the Russian government to her builders, the Union Iron Works of San Francisco, to send representatives to that country for the purpose of arranging contracts for war vessels. The cost of building in special lines has already been reduced in this country to the cost abroad, and sometimes below it, as is proved by the fact that an American machine shop is now building the engines for the private yacht of a famous English ship builder, simply because the Yankee shop can make them more cheaply. The cost of ship building has been reduced materially since we began building the new navy, and if our ship yards and armor mills can be fully employed, the cost of future additions to it will be lessened still more. Navies cost money, but they bring compensating trade, and this again reacts on the naval resources of the country by the greater cheapness that results from constant employment and the better and more rapid construction that is done by trained gangs of workmen."

Another of the new United States torpedo boats, the Mackenzie, built by Charles Hillman & Co. of Philadelphia, had her builders' trial on the Delaware one day last week. The vessel was in command of Capt. Paul Le Compt, with the engines in charge of Chief Engineer George F. Coleman of the Hillman company and Chief Engineer George J. Burnap, U. S. N. The government was represented by Mr. Burnap, Naval Constructor Hanscom and Past Assistant Engineer Robert Crawford. The Mackenzie made her speed trial on a measured knot at Deep Water point, on the Jersey side, almost opposite Wilmington, and she covered the distance in 2 minutes, 55 seconds, almost equalling a speed of 21 knots per hour, 1 knot more than the contract calls for. This was accomplished, too, with her engine making only 294 revolutions to the minute. Naval Constructor Hanscom made a test of her manœuvering qualities, and the vessel, while running at full speed, was turned six times in the space of double her length, which is 101½ feet. Both the naval officers and her builders are well satisfied. The governmental trial trip will be made at an early date.

Irving M. Scott of the Union Iron Works, San Francisco, who has recently been congratulated by the press of the country on account of the performance of the battleship Oregon, is quoted as making some pretty interesting comments just previous to sailing on the North German Lloyd liner Kaiser Wilhelm der Grosse, to seek contracts for war vessels from the Russian government. Mr. Scott is accompanied on his trip to St. Petersburg by his son, Lawrence Irving Scott, a student at Cornell University, and Dr. George Chismore, a San Francisco physician. In speaking of his mission, Mr. Scott is reported to have said: "A still better vessel than the Oregon can be built by simply developing her original design. The new vessel should have a longer hull, increased speed and greater coal-carrying capacity, the two latter being largely dependent upon the former. A supplementary battery of rapid-fire guns would make her still more formidable, and this could be managed by increasing the length of the hull. An increase of draft would not necessarily follow."

The builders' trial of the Japanese cruiser Kasagi, under construction at the Cramps' yard, which was scheduled for Saturday, June 4, was prevented by reason of an accident. The vessel had proceeded about 65 miles when the bracket valve gear of the port engine broke. It was seen at once that a trial of speed would be impracticable, provision not having been made for repairs to the disabled part. The trial will not be held for at least two weeks. The guaranteed speed of the Kasagi is 22½ knots, but there is a suspicion that the Cramps will not be greatly surprised if she attains 23 or even 24 knots. The final and official trial will be made later off the New England coast, but guns will not be placed in position until the vessel has been taken to England on her way to Japan. The officers who will have charge of the Kasagi were aboard on the recent trip.

Eastern shipping papers have been sadly mistaken in their recent boasts that the five-masted wooden schooner now being built by H. M. Bean of Camden, Me., will be the largest in the world. She is 274 feet on the keel and 325 feet over all, and is designed to carry 4,000 tons of coal. These dimensions are exceeded in several of the wooden vessels of the lakes and they are not to be compared at all with the dimensions of the modern steel tow barges, some of which would carry nearly double the estimated load of the Maine boat. It must be noted, of course, that the vessel building at Camden is in reality a sailing vessel, but the lake vessels, although called barges, are in most cases capable of caring for themselves in event of separation from the towing steamer, and are otherwise equipped with all the appliances of a modern ship.

There is a continuation of the decline in blast furnast production. Statistics prepared by the Iron Age show the weekly capacity of the furnaces in blast on June 1 to be 225,398 gross tons, as against 234,163 tons on May 1, 233,339 tons April 1, and 234,430 tons March 1. The Iron Age, in discussing the situation, says: "This is healthy, because it has been evident for some time that consumption was not quite able to cope with the enormous supply. It is worthy of note, however, that stocks have not accumulated at any alarming rate, so that the disparity between product and requirements is not large. It must be observed, too, that what blowing out there has been among the furnaces, is almost entirely due to the necessity for making repairs, and not to a forced abandonment of the struggle."

The senate last week passed the amended bill to organize a hospital corps of the navy. One of the amendments adopted struck from the house bill the proviso that the operation of the act should be limited to the duration of the present war with Spain. The bill as passed makes provision for a permanent hospital corps, to consist of pharmacists, hospital stewards and hospital apprentices of the first and second class. Enlisted men in the navy or marine corps are eligible to transfer to the hospital corps.

Austria is by no means behind in the present universal activity in the building of war vessels. The new naval program which has just been drawn up by the minister of marine contemplates the construction of fifteen battleships, varying in displacement between 6,000 and 9,000 tons; seven cruisers of from 4,000 to 7,000 tons; seven third-class cruisers of from 1,500 to 2,000 tons; fifteen torpedo boat destroyers of from 560 to 600 tons, and ninety torpedo boats.

The inadvertent mistake of the Review in a recent issue in stating that the steel barge Australia was undergoing repairs at Duluth, has aroused the ire of a West Superior editor, who wishes it distinctly understood that all repair work at the head of the lakes is done at the yard of the American Steel Barge Co. at West Superior. Superior is justly proud of the barge works, and our humblest apologies are tendered.

The roller steamer Ernest Bazin, which attracted considerable attention in France previous to the death of the inventor, for whom the vessel was named, and which has been described in the Review, was sold recently to English buyers. The vessel cost $90,000 to build and was planned to revolutionize everything in the line of naval architecture, but when tried the greatest speed attained was only 7 knots.

Canada is to have two more Atlantic liners, which, although not large or of the "flyer" kind, will be serviceable vessels. The Prince George, one of the new steamers for the Dominion Atlantic Railway Co., will reach this side about the middle of the present month, while the Prince Arthur will come a fortnight later.

The will of the late Sir Henry Bessemer has just been probated in London. The gross value of the estate is given as $462,690, and the net value of the personal estate as $291,085, but the will indicates that during his lifetime he disposed of property of two or three times the value of that which he left.

The report of Webbs' Academy and Home for Ship Builders for the year ending April 1, 1898, has just come from press. There are at present thirty-three inmates in the home and twenty-two in the academy. During the past year Mr. Webb contributed $30,000 to the support of the institution.

Wrecking Operations on the Gresham.

The Review herewith presents a picture showing the appearance of the revenue cutter Gresham just after the accident at Ogdensburg, three weeks ago. The Gresham, it will be remembered, had been cut in two to permit of her passage through the canals, but just as these preparations had been completed, the forward section, weighing about 85 tons, turned over and sank in from 30 to 40 feet of water. The accident is generally accounted for on the theory that the pontoon on which the section rested was filled with water. The Ogdensburg Marine Railway had the contract for taking the boat through the canals, and they conducted the wrecking operations, which were somewhat delayed by reason of a lack of facilities. Private telegraph advices from Ogdensburg state that an inspection made since the forward section has been raised disclosed the fact that many of the plates are bent and the vessel is leaking badly.

Preparations are already in progress for taking the cutters Algonquin and Onondaga, now building at Cleveland, through the canals. The

THE GRESHAM AFTER THE ACCIDENT.

Globe Iron Works Co., the builders, will in this case take extra charge of the work. They have leased the pontoons and apparatus of the Ogdensburg Marine Railway, and Supt. Newman of the Globe company will take a force of men from the Cleveland yards to cut the vessels and load them on the pontoons. The Globe company will deliver the cutters to the United States government at Montreal.

Death of a Pioneer Mine Promoter.

Capt. Nathaniel D. Moore, one of the first prospectors of the Gogebic iron range and famous during the Gogebic range mining boom, died at Spokane, Wash., on June 1. Capt. Moore was at one time the proprietor of a small grocery store at Ashland, Wis., having come there from the Rockies, but he sold out in 1885 and started prospecting for iron ore on the Gogebic range. He afterward claimed to have made the first discovery of iron ore on the range, but this claim was disputed. He was interested in Hurley with the firm of Moore & McFerran; in Milwaukee with Moore, Benjamin & Co., and in Ashland with the firm of Moore & Vaughn. He was the founder and owner of the famous Colby mine, and while acting as a promoter of mining enterprises, accumulated considerable property. The collapse of the Gogebic "boom" in 1887 seriously impaired his fortunes, however. When the Mesabi range was opened Capt. Moore again took a hand in development enterprises, but he quit before the Mesabi excitement was fairly under way and went to British Columbia, where he was engaged in gold and silver mining up to the time of his death. Capt. Moore, who was about fifty years of age was twice married. His first wife died in Ashland twenty years ago, while his second wife and four children reside at Spokane.

Registration of the Ship's Roll.

An inclinometer, designed to register the exact roll or list to port or starboard of a vessel either at sea or in harbor, involves the latest application of electricity to maritime uses. It is claimed that this newly devised instrument is extremely sensitive, and absolutely unerring in its indications, and consequently should prove of inestimable value to navigators and ship owners. The face of the instrument is fashioned in the form of a dial, divided into quadrants, which in turn are divided into degrees reading from 0 to 90. Just inside the dial is a glass tube provided with a partition separating two columns of mercury. A movable hand is provided, which may be placed at any point, and when so placed, should the vessel roll that amount, the mercury column would complete an electrical circuit and ring an alarm gong, thus notifying the captain. The instrument is also provided with an index to record the great roll. One point of value in the instrument is its serviceability in trimming a ship in harbor or any place where it is essential to keep the vessel as level as possible, its use enabling discernment of the slightest movement. The instrument has attracted considerable attention from marine men and the public at large. On the vessel on which a trial of the invention has just been made, the passengers made it a regular practice to lay wagers each day on the maximum roll.

English Eagerness For American Contracts.

Not even the manifest friendship of Great Britain for the United States in our present international complications would prevent a temptation, on the part of American shipping interests, to take umbrage at the recent remarks of Fairplay, a representative English shipping paper, were it not manifest in reading between the lines that the Britishers are not really serious in their comments and are seeing the future as they would wish it, rather than as development will make it. The offending article, which appeared in the last issue of Fairplay and has caused no little discussion in this country, amounted to little less than a very optimistic essay on the upbuilding of the American merchant marine likely to result from the present war, and the large amount of work sure to accrue to English yards in such an event. The writer on the other side of the Atlantic has, however, in a moment of evident seriousness, made one assertion so thoroughly at variance with the facts as to compel contradiction.

"Nor will American ship yards," says he, "which are very few in number, and which, with only two or three exceptions, are in anything but a flourishing state, be able to supply the probable demand for mercantile tonnage which will be made upon them, particularly as it is now beyond doubt that their energies will be required to produce additional vessels for the navy."

The point at which particular issue may be taken with this British critic is in his assertion that the American yards are not thriving. However, the condition of the yards of the Cramps, the Newport News Ship Building & Dry Dock Co., the Bath Iron Works, and the Union Iron Works, taxed to their utmost capacity with foreign and American orders, to say nothing of the plentitude of work at all the big yards on the great lakes, affords a sufficient and convincing refutation of this statement without a further discussion. It may not be amiss, in passing the subject, though, to call attention to the fact that the steel ship building industry in America is the growth of only a few years under adverse conditions, while the British builder has back of him the steady development of that nation's principal enterprise during half a century, and yet the American builder, by means of labor-saving machinery, new tools and advanced methods, is so rapidly overcoming the separating distance that the deeper thinkers among British maritime men are already beginning to speculate upon the length of time that shall intervene before their supremacy will be called in question. The animus of the contributor to Fairplay is apparent, for he goes on to say: "It is equally certain that the United States government would, under such circumstances, be acting in a highly unpatriotic manner by maintaining, in the interests of a few ship builders who will have ample government work, the laws precluding the registration of foreign-built ships in America."

The jocular mood is, however, soon permitted to resume full sway, and as the British joker approaches the climax of his remarks he waxes particularly humorous, saying in part: "The assumption is therefore justified that at the end of this war there will be a strong demand for first-class tonnage in America. The ship owners in that country are distinctly wealthy, having had a highly protected trade for many years, and having sold their tonnage to the government at no doubt very acceptable prices. Once the door is opened to the purchase of shipping abroad, we may look forward to very substantial buying on the part of America, and a boom in ship building may also be anticipated on this side. None of the continental countries at the present moment are able to satisfy even their own demands. Germany, which has made some substantial progress in ship building, and which appears to be the only country at all likely to come into consideration as an opponent to Great Britain for supplying this demand, is still unable to meet the requirements of its own ship owners. All these factors point to a very rosy prospect for ship builders and ship owners having tonnage in course of construction, and, although tonnage has materially risen in value during the last few months, it is difficult to tell to what high figures it may rise when once our American cousins have come into the market."

Coming Promotions in the Navy.

Promotion in the navy is just now a matter of considerable interest. If the regular order is maintained, Acting Rear-Admiral Sampson will become a commodore on July 3, upon the retirement of Rear-Admiral Kirkland, the present senior officer of the service on the active list. Admiral Sampson is at present the senior captain of the navy, having been advanced to that grade by the promotion of Commodore Dewey to the rank of rear-admiral. From July until November Sampson remains junior commodore, but in the latter month the retirment of Commodore Norton will move him up one number. Admiral Kirkland is the first officer of the navy from the south to attain the position of senior officer of the whole service since the civil war. The admiral, upon retirement from the service, will go to his old home in North Carolina. He is at present acting as commandant of the Mare island navy yard. After the retirement of Kirkland under the age limit, Admiral Miller, now in command of the Pacific station, will become senior officer, and will so remain until late in the autumn, when he too will retire. After this, Admiral Sicard will become the ranking officer. Of the six rear admirals now serving, only two are in command of squadrons, one of whom is Admiral Dewey and the other Admiral Miller. The personnel of the six flag officers afloat includes two full rear admirals, one acting rear admiral and three commodores. It is a strange coincidence that the junior officer of the naval register, Admiral Sampson, commands the most powerful fleet, while the senior officer, Admiral Miller, has the smallest fleet. The authority of Admiral Sampson is exercised over seventy-six vessels, while Admiral Miller has only three ships.

Oak Point beach and other picnic groves on Nickel Plate road for church, Sunday school, societies, clubs and camping parties—Committees desiring special train service for Oak Point beach or other pleasure groves may secure information by calling on agents or addressing the general passenger agent, Nickel Plate road, Cleveland, O. 54—June 30

One-Fare Sunday Excursions.—Tickets are on sale from all stations on Nickel Plate road. 65, June 30

Around the Lakes.

The house of representatives a few days ago concurred in the senate amendment which provides for the establishment of a life-saving station in the vicinity of, rather than at, Charlevoix, Mich.

At the last regular meeting of the Marine Engineers' Beneficial Association, No. 4, of Chicago, appropriate resolutions were passed upon the death of Thomas F. Dowd, late national secretary.

Benjamin F. Bruce, long identified with marine interests and one of the most prominent grain and transportation men on the lakes, died at his home in Buffalo, a few days ago, aged sixty-six years.

Capt. Lyons, who took W. J. Conners' yacht Enquirer from Buffalo to the Atlantic coast, has returned to Cleveland. It has been announced unofficially that the name Enquirer will be retained by this vessel in the navy.

Citizens of Lorain, by a vote of about five to one, decided this week to bond the city for $75,000 for harbor improvements. The expenditure will go toward widening the channel to the Johnson steel plant, in order to allow the largest carriers to reach the plant.

General Agent D. C. McIntyre of the Detroit & Cleveland Navigation Co. announces that the daily excursion service between Cleveland and Put-in-Bay will open on Saturday, June 18. The steamers City of the Straits and State of New York will alternate on the route.

Capt. John H. Malloy of the Union Transit line steamer William H. Stevens, who was injured on board his vessel about a year ago, has been steadily growing worse and has found it necessary to go to a hospital. A. E. Huff, mate of the Stevens, succeeds Capt. Malloy in command.

According to the weekly report of new vessels from the commissioner of navigation, the tonnage of the two latest Davidson wooden schooners, built at West Bay City, is as follows: Chattanooga, 2,339.90 gross tons, 2,266.27 net tons; Chickamauga, 2,472.83 gross tons, 2,399.20 net tons.

The steamer America, just completed by the Detroit Dry Dock Co. for Dunbar & McMillan, and which is to be placed on the Chicago-Michigan City route, is expected to leave Detroit on her initial trip June 18. Capt. M. F. Morgan and Chief Engineer Edward Gridley will be in charge.

A further effort is being made to induce the Canadian government to open the canals on Sundays until 9 a. m. and after 9 p. m. The deputation which went to Ottawa to advocate the matter was requested to furnish statistics backing up its representations, and it now looks as if something would be done in the matter.

The steamer Sakie Shepherd and the barge America were totally destroyed by fire at St. Clair, Tuesday. The boats were moored at the Mooretown salt docks and the fire started on the Shepherd and was communicated to the America. The latter cast off her lines but too late, and she drifted down the river burning furiously.

The recent action of the Northern Steamship Co. in transferring its steamers from registry in Superior to Duluth has caused fresh protests against the exorbitant measures relative to vessel taxation now in force in Wisconsin. It is stated that according to the laws of Wisconsin vessels are taxed twenty or thirty times as much as in Minnesota.

C. O. Allibone, inspector of the ninth light-house district, has issued an official notice that several vacancies exist in the positions in that district, which includes Lake Michigan, Green bay and tributary waters. The positions to be filled include one light-house keeper and fifteen assistant light-house keepers. All applicants will have to submit to an examination about the middle of July.

General Passenger Agent Schantz of the Detroit & Cleveland Navigation Co. has just issued a handsome lithographic card announcing that all the steamers of the line are now in commission and the regular summer schedule in force. Four trips per week have been inaugurated between Toledo, Detroit, Alpena and Mackinac, and double daily service between Detroit and Cleveland will commence June 27.

Capt. M. M. Drake and G. W. Maytham of the new firm of Drake & Maytham, Buffalo vessel agents, are both well known around the lakes. Their office in Buffalo is at No. 1 Main street. They control the America and Thos. Maytham of the Republic line and the Brazil, Chili, Wyoming and Cuba, comprising the Green Bay line. They will also have the handling of considerable tonnage besides these vessels.

Chicago city officials have granted permission to the Racine Boat Manufacturing Co. of Racine, Wis., who were the lowest bidders on the contract for the new steel fire boat, to withdraw their bid under a special clause in the contract and by reason of the time limit. The work which the Racine firm has on hand and in prospect precludes the possibility of their binding themselves to a time limit, and the fireboat must be ready to go into commission at an early date. The disposition of the Chicago contract is now a matter of some doubt.

The aid of the Review has been solicited in an effort to discover the whereabouts of Capt. Alb. Renders of Buffalo, formerly of Chicago, who disappeared from his steamer, the S. J. Murphy, at Toledo, in November, 1897. Mrs. Renders, who is a delicate woman, has broken down under the strain induced by the disappearance of her husband, the loss of her children, who have been taken from her, and the fact that she is even deprived of the use of their little property, which is in her husband's name. Anyone having any information regarding Capt. Renders will confer a favor by communicating with Mrs. Renders, care Attorney E. A. Hayes, Ellicot Square building, Buffalo.

When the matter is sifted down there does not appear to be very much foundation for the rumors and the unusual degree of interest manifested in yachting and ship building circles regarding a mysterious steam yacht, supposed to be under construction at the yard of the Globe Iron Works Co. in Cleveland. Officials of the company do not deny that plans were some time ago prepared for a steam yacht, but there the matter ended, and the keel for such a craft has not been laid at the company's yard nor has a contract been made for such a vessel. A majority of the rumors have assigned the new vessel to replace the Harkness steam yacht Peerless, supposed to have been sold to the government. The best refutation of this theory in toto is afforded by the statement that the Peerless has not been sold to the government and is, indeed, at present laid up at Fairport.

Notes of Ship Yard Contracts.

Kelley, Spear & Co. of Bath, Me., have contracted to build a small schooner for E. C. Smith of Brooklyn, N. Y.

E. J. Bergen has let the contract for an auxiliary schooner to Joseph Thomas & Son of Baltimore, Md. The vessel was designed by L. J. Nelson.

The Marine Vapor Engine Co. of Jersey City has the contract for a 30-foot hunting launch for Willis R. Peake. The boat will be equipped with a 7 horse power alco-vapor motor.

Davis & Son of Kingston, Ont., have secured a contract to build a steam yacht 35 feet in length by 8 feet beam for S. C. Gill of Steubenville, O. The vessel will be fitted with compound engines.

A pleasure craft 70 feet over all and 12 feet beam, to be called the Nautilus, is being built by Greene Bros. of Bridgeport, Conn., for Col. Lakin of Westfield, Mass. She will be propelled by twin screws and equipped with two 16 horse power Globe gas engines.

Action has been taken by the common council of Boston authorizing the superintendent of streets to contract for the construction of two ferry boats. One of these will replace the William E. Russell, purchased by the government, and for the other, which is to replace the ferryboat East Boston, an appropriation of $71,000 has been made.

Peter Cahill of New York has awarded the contract for a sea-going tug to the Neafie & Levy Ship Building Co. of Philadelphia. She will be 108 feet in length; 22 feet 6 inches breadth; 13 feet 6 inches depth. Her engines will be compound, with cylinders 20 and 36 inches in diameter and 26 inches stroke, and her boiler is to carry 130 pounds pressure. The tug is to be completed within four months.

The M. A. Sweeney Ship Yard & Foundry Co. has been incorporated with a capital of $25,000 at Jeffersonville, Ind., by Michael and James Sweeney, Ashby M. Davis, John W. Poor and James G. Cole. The new firm will build steamboats and other craft, and has already secured the contract from the United States government for the construction of three towboats, to be known as the Mercury, Venus and Mars.

The Neafie & Levy Ship & Engine Bldg. Co. of Philadelphia has closed contracts with the Luckenbach Towing Co. of New York for the practical rebuilding of the steamer Allegheny, which was purchased by the latter company for $26,000 after she had been burned and sunk in the Delaware. The Neafie & Levy company also has the contract for two new tugs for the M. Moran Towing Co. of New York. One of them is to be ready for service in July.

H. A. Bush of St. Louis, Mo., is having an 84-foot steam yacht built by Ed. Reese & Son of Carondolet, Mo., from plans prepared by Henry J. Gielow. She will be known as the Aurelia and is expected to make 23½ miles on her trial. The yacht will be equipped with a four-cylinder, inverted triple-expansion engine, with high pressure cylinder 8 inches in diameter, intermediate 12½ inches diameter, and two low pressure cylinders each 14 inches in diameter, all having a common stroke of 12 inches. The boiler is of the Roberts water tube type.

The contract for the construction of J. Pierpont Morgan's new steam yacht Corsair, exclusive of equipment and furnishings, has been let to the W. & A. Fletcher Co. of Hoboken, N. J. The Fletcher company has sublet the contract for the construction of the hull to T. S. Marvel & Co. of Newburgh, N. Y. The Fletchers are also at the present time doing boiler work to nearly the extent of their facilities. Among others they are building twelve big boilers for the different steam vessels now in course of construction at the Roach ship yard, Chester, Pa.

Trade Notes.

John A. Brashear of Pittsburg last week shipped to the government distributing station at Derby, Conn., fourteen long-range telescopes for use on United States warships. Another order is nearing completion.

Authority has been given by the United States naval auxiliary board for the purchase of a stock yacht, No. 295, now under construction at Roach's ship yard, Chester, Pa. The yacht is a sister ship of the Malay, recently launched from the same yard.

A reorganization of the Hughes Steam Pump Co. of Cleveland has lately been effected. The following officers have been elected: Martin Snider, president; W. H. Hughes, vice-president; C. A. Snider, secretary; H. M. Snider, treasurer. Capital stock of the new company is $100,000, and the new name is the Snider-Hughes Co.

The steel steam yacht Malay, building for Dr. Charles G. Weld of Boston at the Roach ship yard, Chester, Pa., mention of which was made in the last issue of the Review, will be provided with two Almy boilers and triple expansion engines with cylinders 10, 16 and 25 inches in diameter by 16-inch stroke. The yacht will carry a 24-foot alco-vapor launch, an 18-foot gig and a 16-foot dingy.

The Whitestone Forge & Construction Co., with offices at 11 Broadway, New York, has secured the plant of the Central Forge Co. of Whitestone Landing, L. I., and will be enabled to carry on the business with increased facility. The plant just purchased has been thoroughly overhauled, refitted and improved, and the firm has not only secured the services of the most competent assistants in each department, but with some of the best and heaviest tools on the eastern seaboard, with exceptional facilities of deep water wharfage and railroad connections inside the works, is admirably fitted to take up all classes of iron and steel forgings in the lines of ordnance, naval, marine and other heavy or special work, as well as every description of iron or steel construction.

U. S. Engineer Office, 185 Euclid Ave., Cleveland, O., May 23, 1898. Sealed proposals for constructing part of west pier, removing part of old west pier, dredging, and completing east breakwater, at Cleveland Harbor, Ohio, will be received here until 2 o'clock, P. M., standard time, Thursday, June 23, 1898, and then publicly opened. Information furnished on application.

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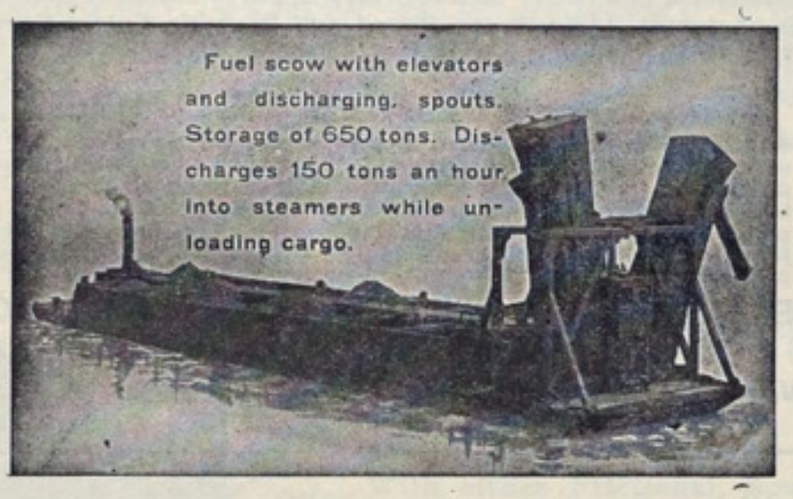
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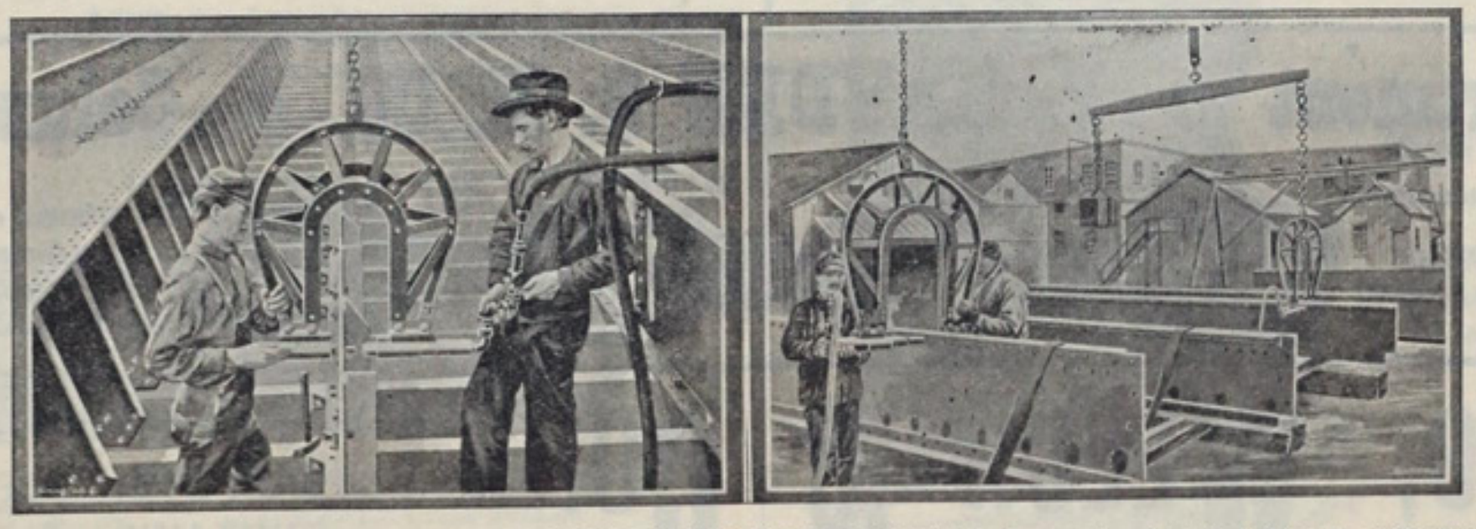

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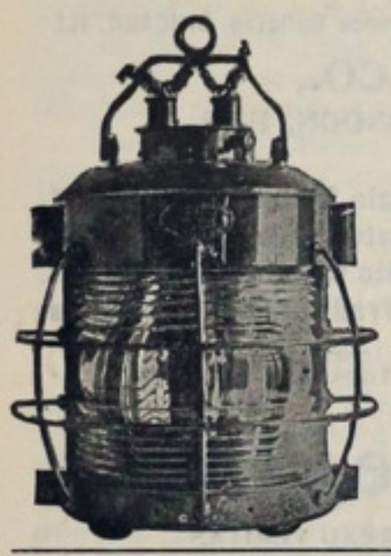

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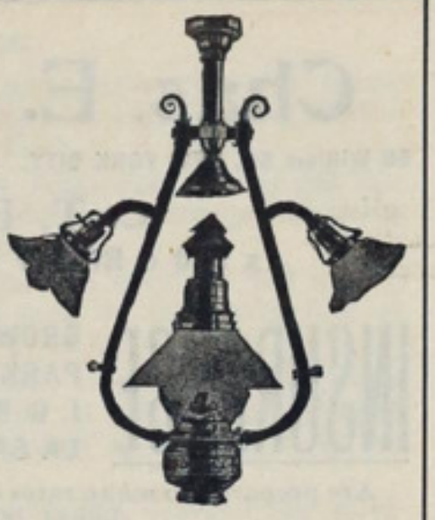

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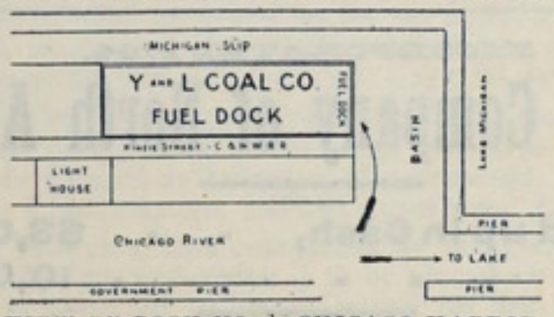

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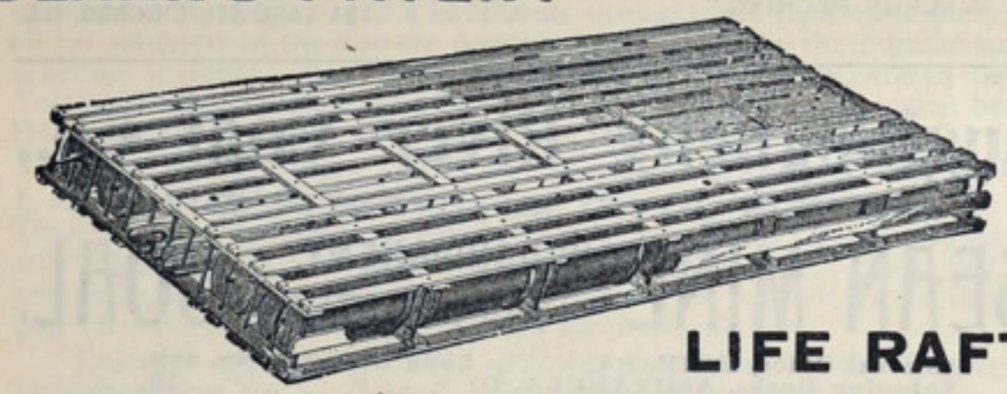

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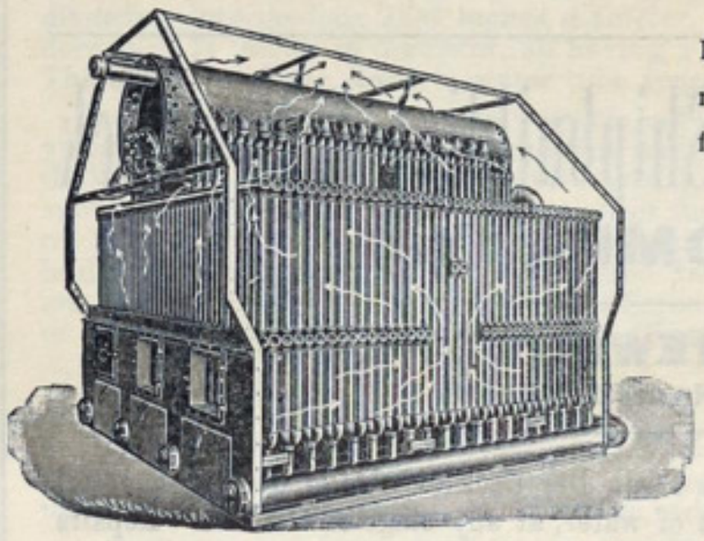

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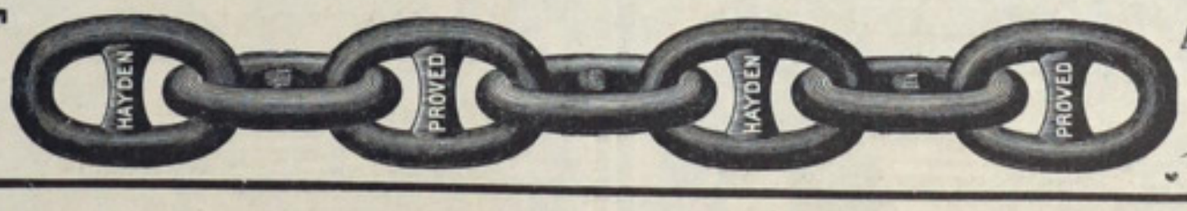

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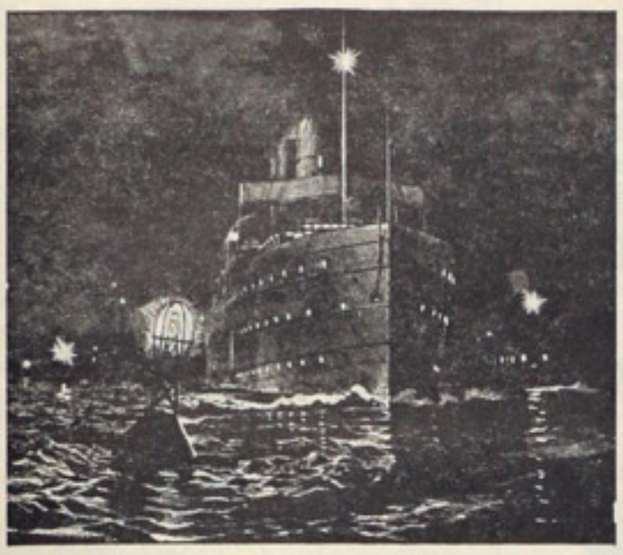

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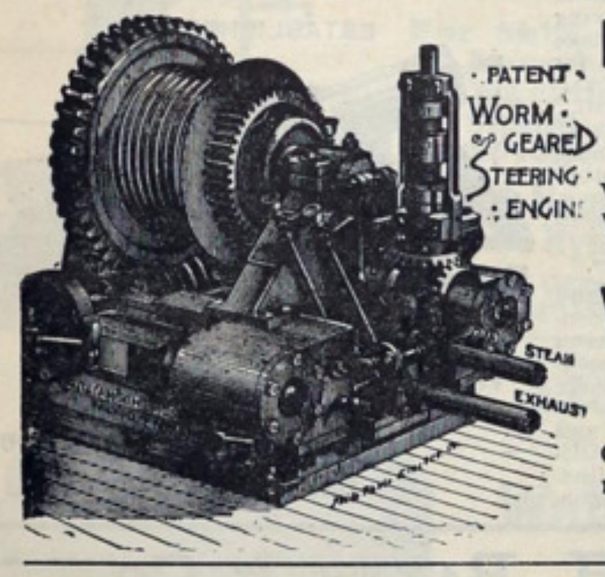

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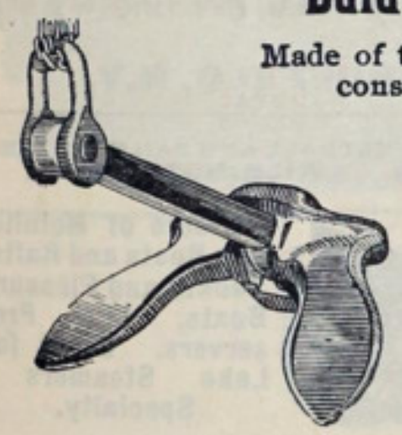

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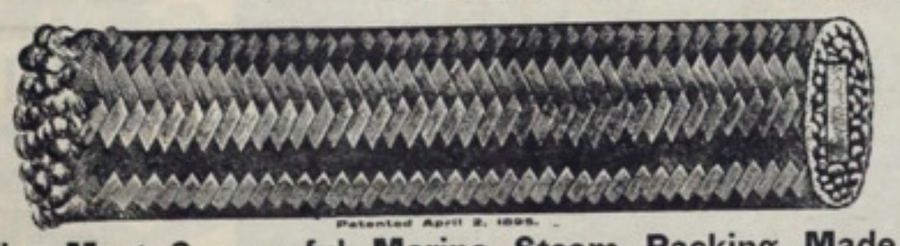

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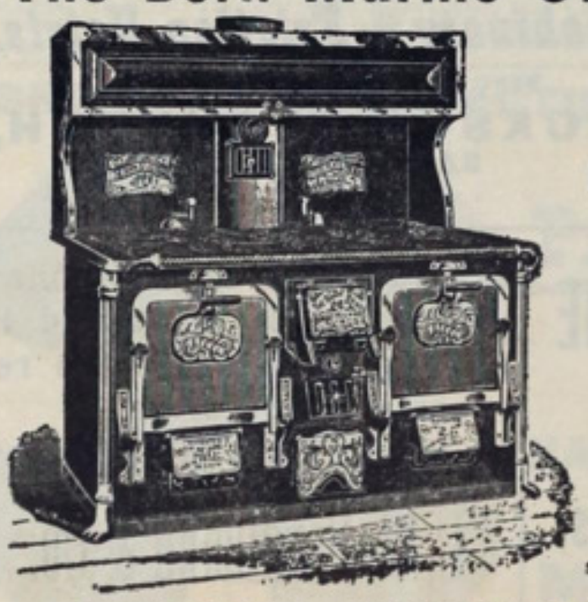

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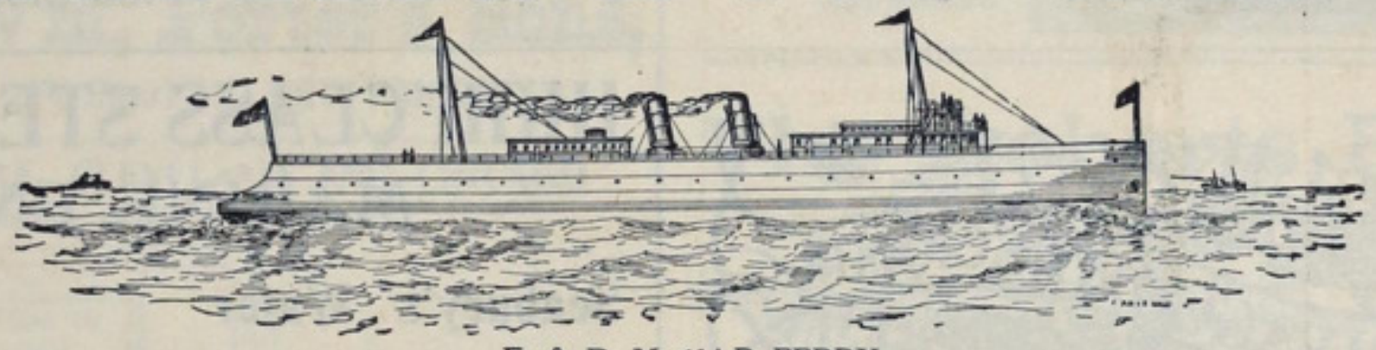

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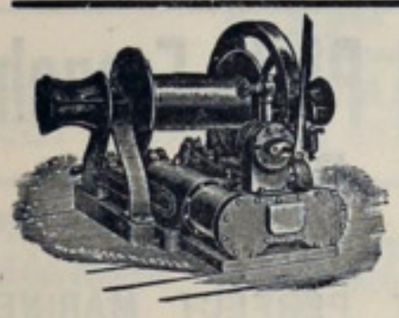

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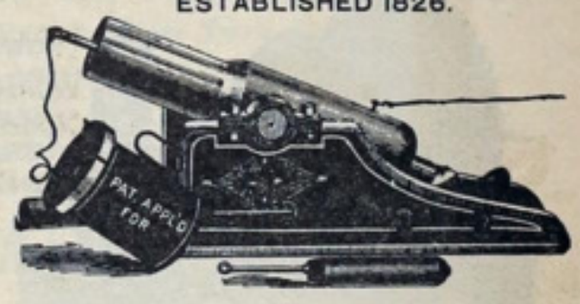

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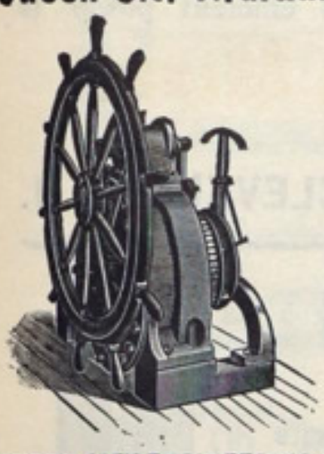

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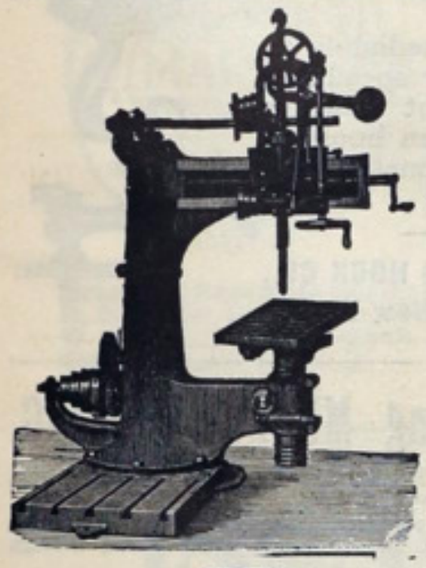

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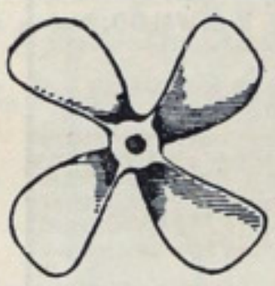

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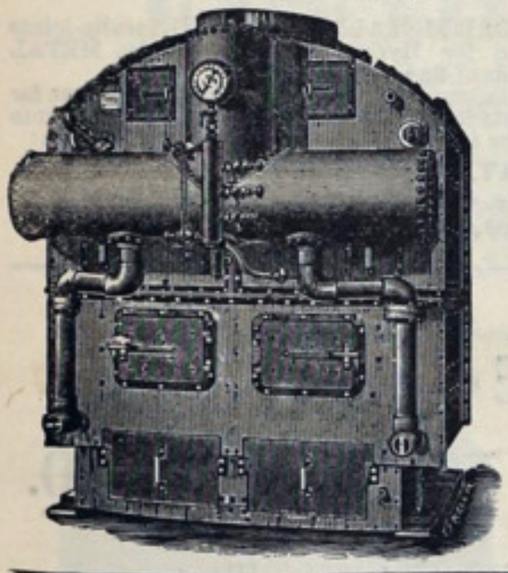

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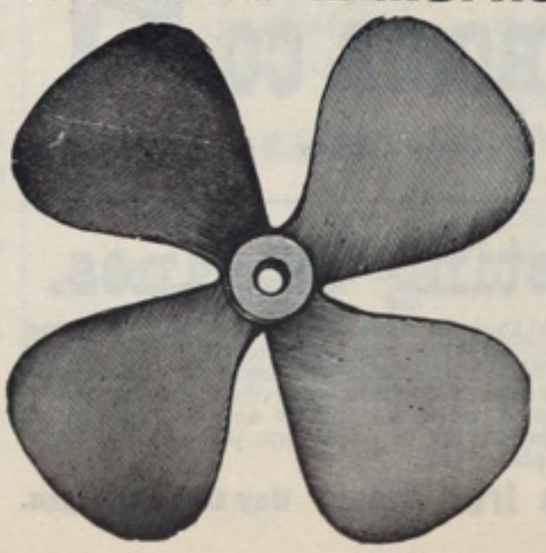

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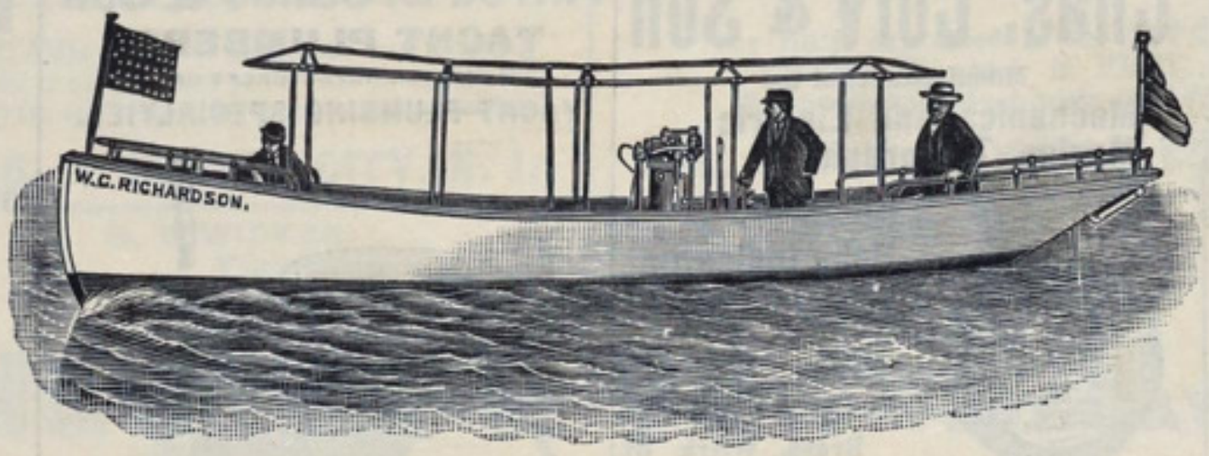

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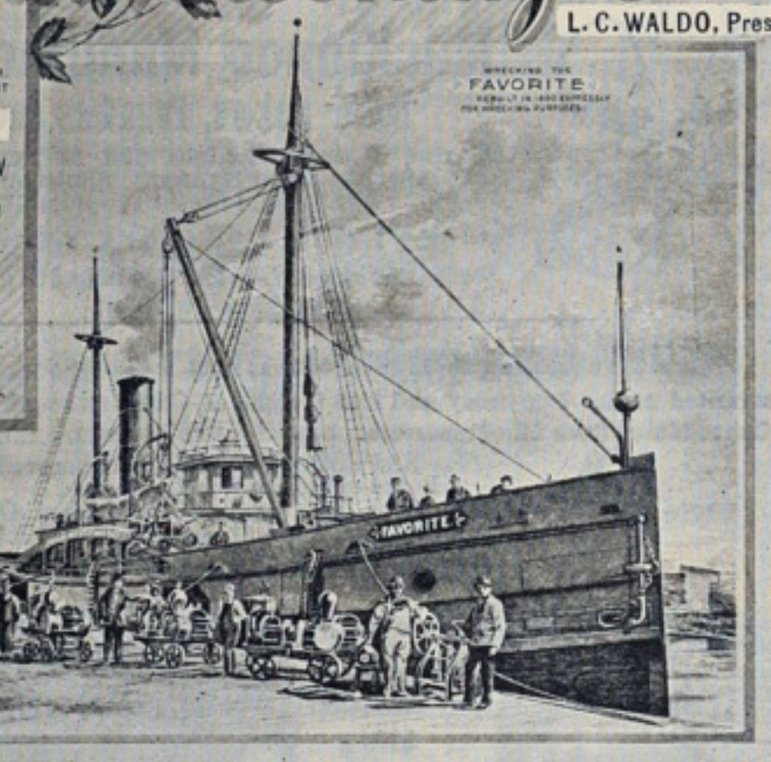

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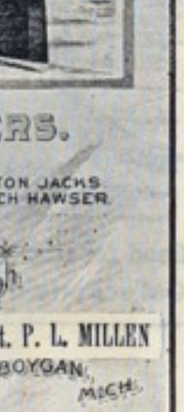

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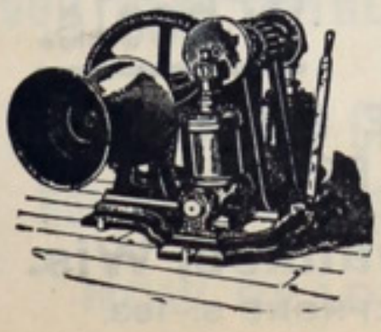

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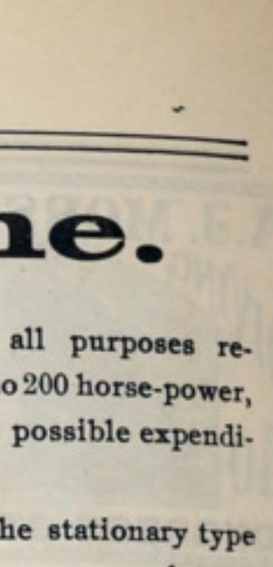

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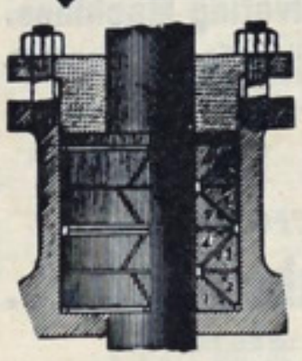

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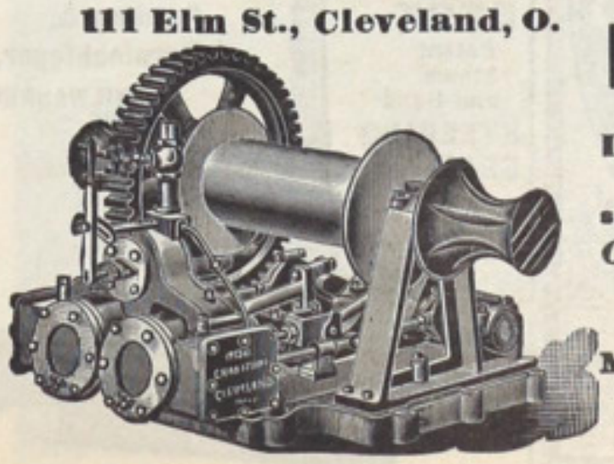

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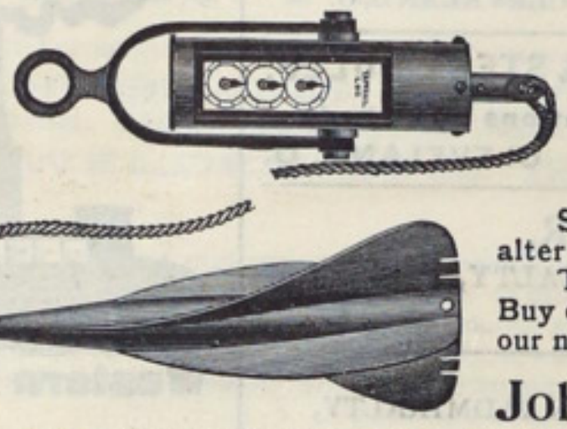

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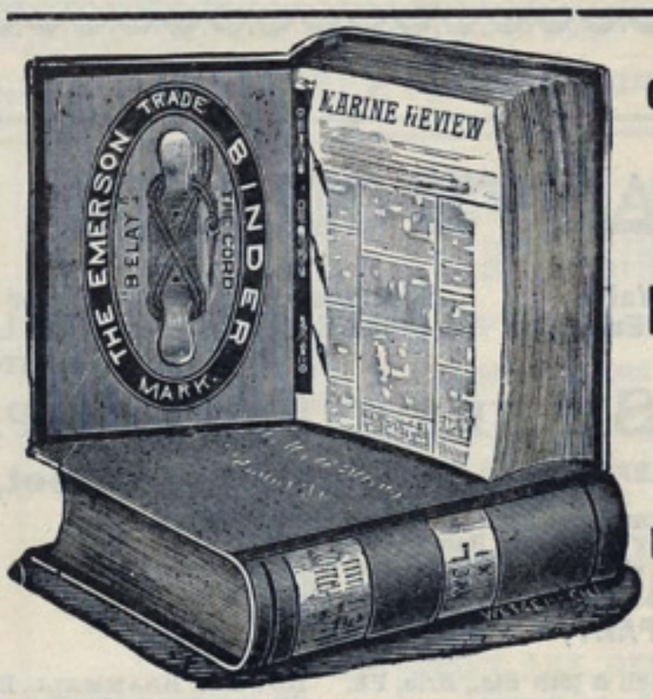

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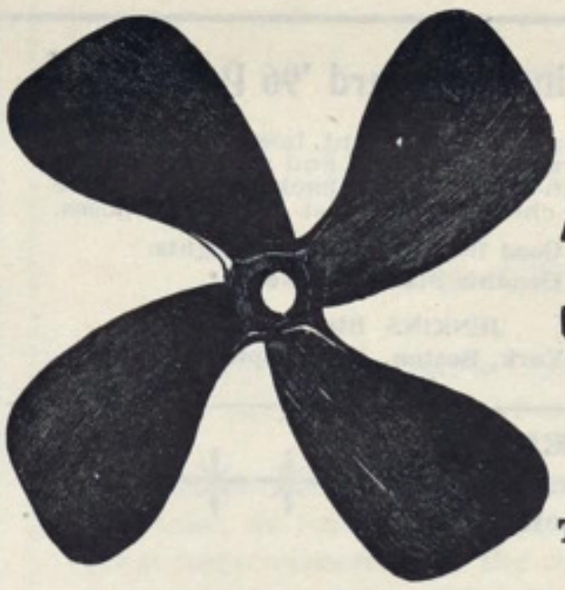

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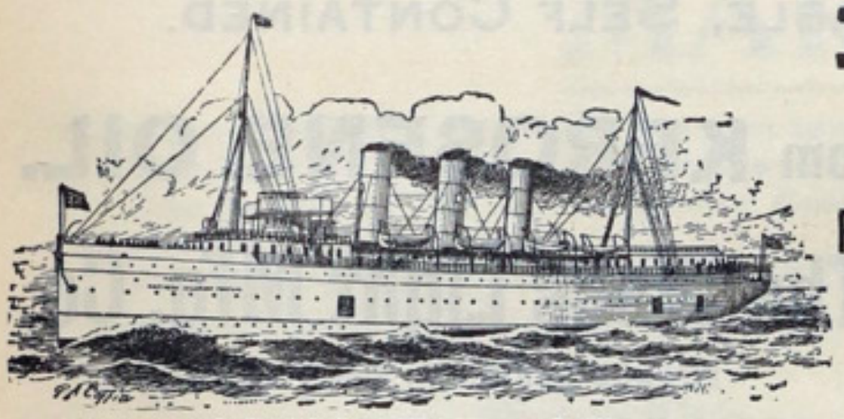

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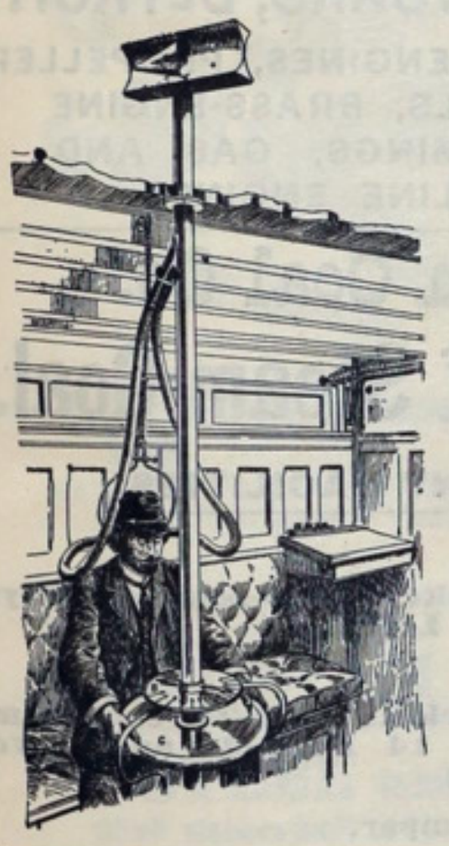

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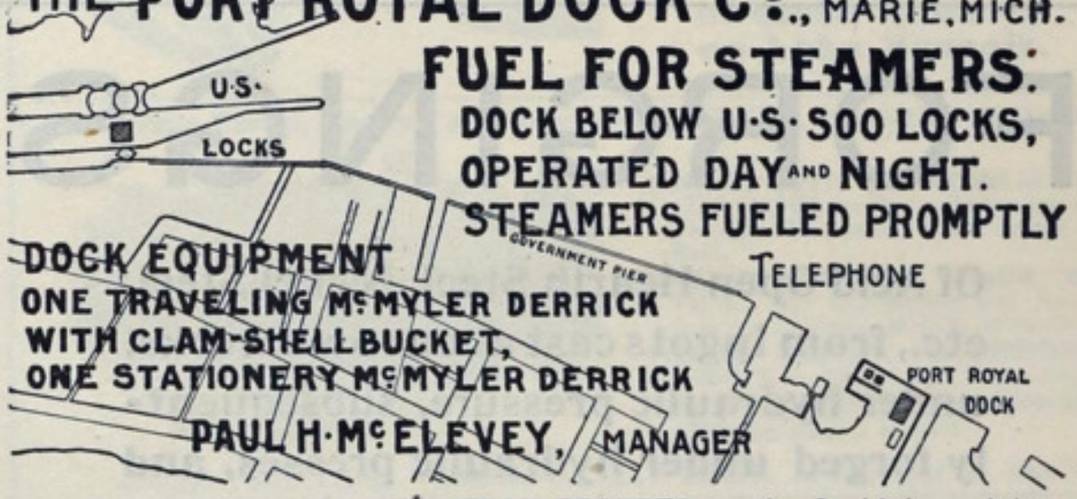

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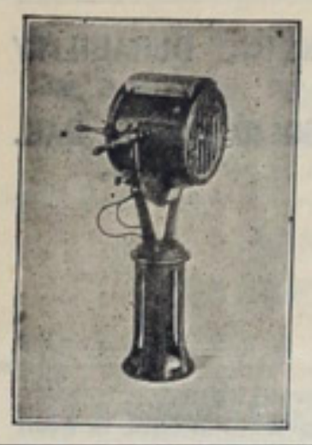

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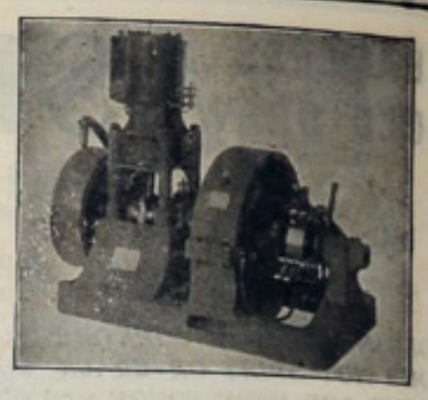

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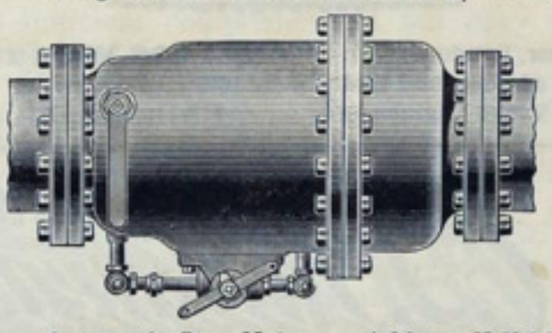

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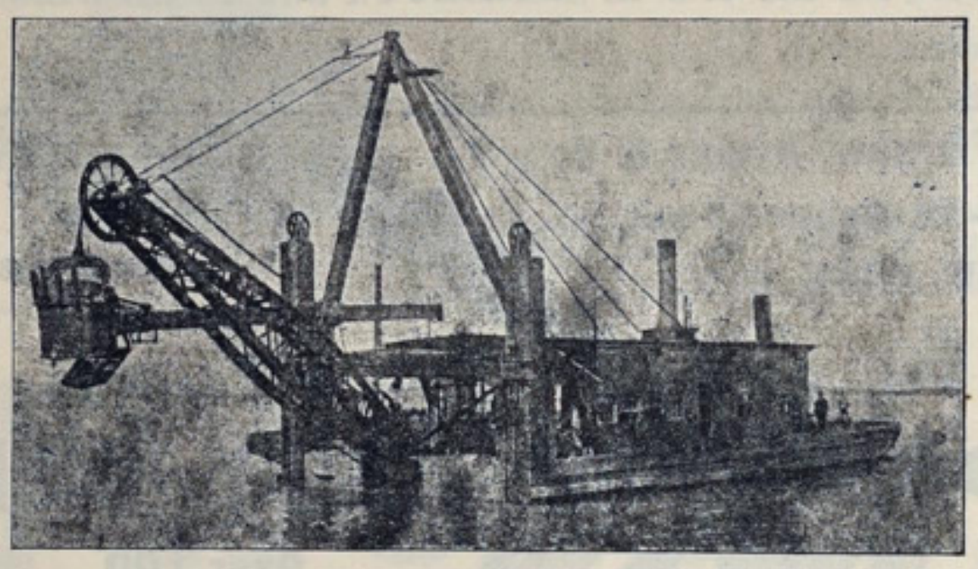

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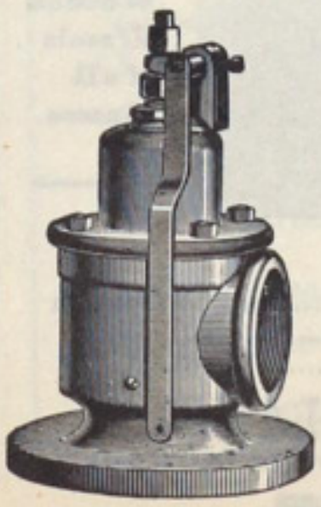

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